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New York Teachers' Monographs

PLANS AND DETAILS
of
GRADE WORK
(SERIES B)

EDITED BY
SIDNEY MARSDEN FUERST

ASSOCIATES
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A Quarterly devoted to the presentation of information concerning the Course of Study in the Public Schools, and their Organization and Management.

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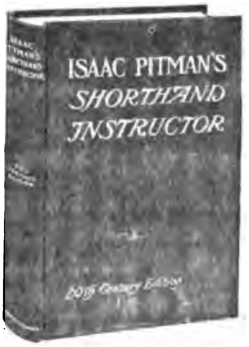

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PLANS AND DETAILS OF GRADE WORK

MARCH 1904

Composition.

La Selle H. White, Principal P. S. 3, Brooklyn.

SO simply clear and comprehensive is the course in composition that it needs neither interpretation nor a statement of its underlying philosophy. Let us then consider the results now secured in composition and some ways of securing better ones. But before attacking this problem, let us establish some standard of judgment as to present attainments.

Each principal is in a position to measure the results in his own school, but he is not competent to pass on the results of the entire system. A congress of principals might correctly estimate the work in composition in all schools, but no such deliberative body exists. How then shall we obtain a common ground for judgment ?

Next in rank above us are schools which receive our finished product and are afforded, by virtue of position, an opportunity to make comparisons and generalizations regarding the success or failure of the efforts of the elementary schools. Realizing this superiority of opportunity I have sought the opinion prevailing in our high schools regarding the work in composition of our grammar school graduates. Their estimate of our pupils' power to think and to express, which on the formal side includes penmanship, punctuation, grammar and spelling, has been obtained.

This I have tried to verify by observation in my own school and elsewhere ; and knowing that the criticisms were given with kindness and conservatism, and sometimes by teachers who had been promoted up through the grammar schools, I conclude that the views expressed are just, reasonable, and, I hope, suggestive.

Of the five high schools interviewed, all but one readily and emphatically placed the great fundamental defects of our work in composition in the *thought* processes, and the one representative who asserted that our pupils were weaker on the side of expression, as the interview extended, was inclined to agree with the majority. All the high schools urge that our boys and girls be given more power to think clearly, and to recognize a thought as a unit.

The involved, incomplete, and clumsy sentence, and the incorrect and illogical arrangement of sentences and modifiers are due primarily to faulty thinking, to loose, disconnected mental action. Teach a child constantly to exercise his logical faculty, and the appreciation of a complete thought will follow, and the period will generally come in its right place. Teach children to keep in view the chief or central thought and its related explanatory thoughts, and the paragraph will appear in its correct form.

Says Chubb, "Good composition is fundamentally good *form*." He had more accurately said, good composition is fundamentally good *thought*. This he admits later when he says: "Everything the child tries to say should be well said, that is, well composed. If it is not well said, it is not well *known*." Therefore, the physical embodiment of thought, generally known as composition, is not primary but subsidiary. The knowing process is basic or fundamental.

In seeking a cause for this weakness in the rational processes of our work in composition, we are led back to the careless, desultory, and incomplete thought work in the daily recitations. In all the oral and written work of the lesson we hold our pupils too little to completeness and careful logical sequence. In haste the teacher too frequently accepts answers unfinished, irrelevant, and only suggestive of the truth sought. It is easier for the teacher to complete the thought himself or leave it a fragment.

Another cause contributing to this condition lies in the ill-digested matter from which we draw our topics for composition. There is no expression possible where the fundamental processes are thus confused. "Well-possessed knowledge differs from ill-possessed by its being a generator of power that seeks an outlet."

It is impossible to separate this entire subject of composition from any of the other work of the school.

In our new course, paragraphing is either stated or implied for every grade, beginning with 3 A, with special emphasis in 8 A.

The high schools agree that our graduates possess very little knowledge of this subject, or of the reverse process, making the outline. In one of our high schools they assume that the first-term students know nothing of paragraphing, and request them to write the page without indention!

The cause here is the same as in the previous defect: too little familiarity with the thought. We tell our pupils to put a period at the end of a sentence, but we fail to tell them where the thought ends. Their ignorance is equally profound when we tell them to begin a new paragraph where the topic changes.

In one school the teacher has found a remedy by telling the pupils to begin a new paragraph every third sentence. The comedy would be complete if she would now tell pupils to begin a new sentence every thirteenth word.

Knowledge of the nature of the paragraph is fundamental, not only in the child's written expression of thought. but also in all his relations with the printed page. We think in paragraphs. If the child would read or write intelligently he must recognize in the paragraph the chief thought and the supporting, auxiliary, or explanatory thoughts. The operation requires power to recognize thought values and thought relations, and view it as we may, it is a form of logic, or logical sequence.

We may say that the requirement is too difficult for child mind, and that we had better delay it for the high schools. But if the subject-matter be properly graded the elementary process is not so difficult as are many of our problems in arithmetic, which are successfully solved. It is only a normal mental action at every stage, and the more emphasis in our teaching we put upon the thought, where it belongs, the greater will be the child's power to arrange his paragraphs.

Paragraphing is also a form of classifying knowledge, and to eliminate it from our drill is to leave the mental equipment of the child in disorder.

In the verbal expression of thought the child should be made to develop a keen literary sense of the relation of the word to the sentence, of the sentence to the paragraph, and of the paragraph to the topic. This cannot be done till the pupil is given the power to recognize a thought as a unit, to express it as such, and know when he has done it and stop.

All literature is not correctly paragraphed. Some publishers arrange the matter on the printed page in sections to please the eye merely; so also in *good* literature, as in Carlyle's Essay on Burns, where every law of paragraphing is broken.

The inability of our pupils correctly to articulate thoughts into sentences and paragraphs was expressed by one of our high schools in the following: "The grammar school graduates have only three connectives in their vocabulary, 'and,' 'but,' and 'or'." Much time is spent in this high school in giving the first-term students power in thought relations sufficient to use such words as otherwise, nevertheless, moreover, however, therefore, and others. A connective not only unites but it indicates the relation between the parts united; hence the writer joining propositions into compound and complex sentences is engaged in a process similar to paragraphing.

Our high schools also complain because of the small number of words at our pupils' command. Increase in knowledge and power of thinking, in the progress from grade to grade, implies what we sometimes overlook, enlarged vocabulary. The more important sources of increase are the spelling lesson, literature, and etymology.

It has been said that etymology is the key which unlocks the storehouse of connotation. A great wealth of Latin and Greek words in our composite language is placed at our disposal as soon as we are in possession of even a limited number of prefixes, suffixes, and roots. Before, we knew in a vague way the meaning of a word, now the concept becomes full. We take complete possession of it, and it becomes a part of our equipment. In this growth of words the working vocabulary of the teacher is another important source of increment.

In punctuation also the high schools agree that our graduates are deficient.

The ultimate and only consideration in the application of rules for punctuation is *thought structure.* The comma sentence, the suspended subject, the sentence without a period, and all the other errors in punctuation are so many appeals for better thinking.

I know many will say that the great trouble with our pupils in punctuation, as elsewhere, is not the want of knowledge, or power, but carelessness. The best remedy for this is more interest. Pupils are likely to do well what they find pleasure in doing, and this interest can be aroused by drilling, not on form, but on content.

Little is said in the course of study regarding the use of capitals and punctuation. It is the opinion that each law should be given when needed; opportunity should not be made for it.

The high schools pronounce the work of the elementary schools in spelling satisfactory. I believe it is Mark Twain who said he could prove total depravity, if permitted to make his choice of the individual. In the same way the newspapers for centuries have been proving spelling in the public schools a failure. In like manner they could prove that every boy in the public schools has a Roman nose. But, as in other things, there is always room for improvement.

There is need of more care in the assignment of the spelling lesson, especially in the lower grades. First, with open books, words in view of pupils, all words assigned should be correctly pronounced, The child's inability, or carelessness, in the pronunciation of words, e. g., chocolate, government, and many others, is a cause of his inability to spell correctly.

The high schools do complain of our pupils' lack of proficiency in syllabication. Exercise in pronunciation affords an opportunity to correct this fault.

At this point, in the assignment of the lesson, the teacher should pronounce the words for the children to spell so as to discover what words each child needs to study. Otherwise the child will spend most of his time on words he already knows and fail to learn the words he does not know.

The pupils' methods of study vary. Some will learn best through motor activity, writing or saying, others must hear, but by far the greatest number must see the word and visualize. No one method should be used to the exclusion of the others. Each child should be permitted to use his talent. Writing words again and again should long ago have been consigned to Limbo, with other more humane forms of corporal punishment.

The secondary schools do not complain of our graduates' knowledge of grammar. Some of the elementary schools send their students better prepared than others, in part because of the attitude of the principal toward the subject.

Every truth in grammar is founded upon the relation of ideas in sentences, and thus, if we would study it intelligently, we are forced into rational processes. This explains why the study of grammatical analysis sometimes illuminates the appreciative study of literature. The student is compelled to get meaning before he can get grammatical relations.

One of the high school teachers complained of the inability of some pupils to apply their knowledge of grammar because of the confusion in nomenclature and statement, due to the use of more than one text book. Two or more texts in history and geography in the same class may be beneficial, but not more than one author in grammar.

The penmanship of the grammar school graduates is not satisfactory. They do not write well, and those who use the vertical letter write so slowly that it is impossible for them to do their written work in the allotted time. In some of the high schools this forces about two-thirds of the students, who write the vertical at entrance, to adopt the slant.

So it is in our grammar schools. In the primary department form is good. But little muscular power is developed with it, only the slow, labored process of drawing letters. This want of manual training, when the demand for more rapid writing comes in the advanced grades, destroys the form learned in the primary and leaves neither a good letter nor motor power. Let us have first manual training, then form, and both will remain. The great need of our pupils is more power in muscular movement, and the new course of study is a great advance over the old, if the movement exercises are used as indicated. The excellent results in penmanship in our special schools are achieved chiefly by drill in movement exercises. If they can make good writers of our children in a few months why cannot the public schools do it in eight years?

As to the kinds of composition, or the forms which thoughts take, viz., narration, description, exposition, and argument, after the first year, all enter into the daily work of the child.

In our course of study, exposition is not named till we reach 7 B. It is implied in 2 A. Exposition is such a big word, seemingly so formidable, that it is omitted in our new high school course till the second year. Nevertheless, one of our best high schools thinks our graduates at entrance do better work in exposition than in description, because of the difficulties in vocabulary incidental to the latter. This agrees with the theory at Harvard where it is placed first, being regarded as less difficult than narration or description. In beginning exposition the sequence or causal relations should be simple.

Argument is not mentioned in the course of study, but it cannot be excluded. Furthermore this form of composition should have a much larger place in our work than it does. Mathematics affords the best opportunity for exactness in argumentative expression. But literature and history are superior in the broader play of judgment and reason, where the human element is involved.

The tendency is to put too little of argument into these subjects. We make history in general only narrative. Instead of "When did Columbus discover America?" why not, "Why did Columbus discover America in 1492?" "Why did the Civil War begin in 1861?" Likewise in geography, "Why is our City located where it is?" is much better than, "Where is it located?" If difficulties are properly graded, the child finds much more pleasure in argument than in mere recollection. The debate also in the upper grammar grades, upon subjects within the pupils' grasp, furnishes a valuable exercise in argumentative composition. In pleasure, next to the physical contest on the play ground, comes this pitting of mind against mind.

Also somewhere in the variety of work in composition the following should find a place:

(1) The report of the conversation between the real pupil and the real teacher. How it illuminates the use of quotation marks, when telling and dictation only confuse.

(2) The writing of poetry. How it illustrates better than anything else the artistic qualities of verse,—meter, rhyme, and rhythm.

(3) The little play, where the pupils are made to appreciate some of the qualities of the drama, and by impersonation and motive are made to see ethical principles more clearly.

In consideration of the educational influence of the newspaper and the magazine in this connection, permit me to commend the judicious use of current events required in 7 A. They afford good material for oral composition, give an opportunity to teach our pupils the selection of topics worthy of their attention and the elimination of the unworthy, and present many good lessons in patriotism and ethics. They are also a medium through which the foreign child may be brought into closer sympathy with his adopted country.

Time forbids such a discussion of the letter as the subject demands. Our high schools report many of our pupils able to write a good business letter, but unsatisfactory in social correspondence. The business letter in general is formal, readily lends itself to imitation, and requires little originality. The friendly letter portrays individuality and character, invites the stamp of authorship, is a higher form of literary art and hence more difficult. On the other hand, it is more enjoyable to the writer and comes closer to the immediate life of the child.

We have sometimes been defeated in our efforts to get interest and good results in the social letter by seeking correlation with it and geography, or some other ill-adapted matter. Imagine a girl becoming ecstatic, writing a friendly letter to an imaginary grandmother about the Panama Canal!

The study of models in composition extends over a period of six years, beginning with the third. The method of the study, or the presentation of a model, is indicated in the syllabus for 7 A, but it is applicable to all preceding grades.

Structure or plan, choice and position of words, phrases and clauses, literary form, clearness and accuracy, and an interesting content are among the qualities desired in a good model, and no model should be selected which does not possess these qualities. What they are and how they are manifest should be well known to the teacher, and, as far as possible, be made the inheritance of the child.

The monotonous and artificial uniformity and the absence of originality and independence, in some of the work of grammar school graduates, suggest that models have sometimes been misused and put in between the child and natural thought activity.

Ask any number of good writers to describe a day in the country and how different will be the mode of attack and treatment, Blind imitation and slavish subordination to form should be avoided in model study, else it becomes a handicap robbing the child of his right to the individual treatment of a topic.

Furthermore a few models briefly studied and imitated will not bring the desired results. The constant appreciative study of the best there is in literature is a force far more potent. Give the child daily touch with the great literary master-pieces, imbued with a love of the art and clear mental vision, and he will make his own model.

How shall we permanently correct those constantly recurring errors in English? They appear in nearly every recitation. In every set of papers is a "done" for a "did," an "is" for an "are," a "don't" for a "does," a "set" for a "sit," a "seen" for a "saw," an adjective for an adverb, and others. These should be corrected at all times. Furthermore the teacher should use these words often and correctly.

But how can we remove the faults as long as we hear far too frequently the teacher command the child to "set there," and ask "what is some of the minerals" and many other similar errors?

Most of our newspapers have what is known as a "Style Board," or a column of "Don'ts" for the instruction of the reportorial staff. On the Style Board of one of our papers we find such as, "Don't use "commence" for "begin," "on the street," for "in the street," "to correctly speak" for "to speak correctly" and others similar.

Likewise in composition, errors in form may be arranged under a few types, and every teacher should have such a list, containing the prevailing errors of the class with additions made as occasions require. Each term permanently to eliminate these general errors should be a part of the duty of the teacher. This list in the possession of the teacher would render him more conscious of the prevailing faults, and by *drill* in the correct forms the habit of the street and the home would be more readily overcome.

There should also be a time when the teacher comes face to face with the individual pupil. There are other errors than the general or class errors to be corrected. This cannot be done by returning a paper blue-penciled for the child to copy. Personal contact with the teacher is indispensable. The period when the class is doing written work and the study hour present an opportunity.

Prominent among the causes which have contributed to the unsatisfactory results in our work in composition are the following:

(1) Lessons in which the teacher's attitude of mind was aimless. Ask the great majority of teachers engaged in the lesson in composition what their objective points are, and you will find they have none.

(2) Almost exclusive emphasis on form, of little interest to the child. This has been followed by hours of revision, more form and less interest.

(3) Instruction too far away from the child's life. Topics have been selected which were either beyond the pupil's mental grasp, or, for other reasons, of little interest.

(4) The feeling of the pupils that what they were writing would never be heard or read.

In our new course oral composition is given prominence in every grade and is undeniably more important than the written.

Naturally, our high schools agree that the work of our graduates in oral composition is much less satisfactory than in the written, as the former has received less attention.

In the first four years much of the work in expression should be oral. If this were well done, the written English for the four remaining years would be far more satisfactory.

At present our pupils, when they are required to talk upon a topic with which they are familiar, only ramble on in a disconnected and illogical manner, with no consistency, continuity, or power of concentration, attack, or transfer from point to point.

All the high schools agree that one of the most unsatisfactory features of the oral English is indistinctness of articulation.

Dr. G. Stanley Hall has said, "The schools are filling the world with muttering and mumbling men and women." Distinct vocal utterance in the church, the courtroom, or on the rostrum is rare, and oral expression in our schools needs the aid of the specialist quite as much as do music and art."

Primarily our trouble goes back to the reading lesson, and there we must begin to correct the fault. When we learn to intensify in the thought processes of reading, going deeper into the meaning and the relative importance of ideas, instead of asking for emphasis on words only, good reading will not become a lost art as we go from primary into advanced grades.

But the greatest enemy of good results in oral composition is the loquacious teacher, the pedagogical phonograph with endless record. Here the child has no chance to learn to talk.

When we measure the value of this power in the ordinary affairs of life, we place far too little emphasis upon it in the daily work of the schools.

"Persuasive speech," says President Eliot, "counts for much in small assemblages, like directors' meetings, where the man who can skilfully argue in behalf of a desired end, and eventually bring others to his way of thinking, is of exceptional value both to himself and interests with which he may be identified."

But oral power can never be acquired by a special period designated for this purpose. The aim should be to make every thought expressed orally a model of good English, not only on the formal side of grammar, but also in tone of voice, enunciation, pronunciation and expression.

An English critic recently speaking of the American schools said, "I have found that you teach more than the three R's. There is a fourth R which every American school teaches and the teaching of which is largely responsible for the wonderful success of your country. That fourth R is Reason." In no place in our school work should we aim to have this commendation more deserved than in composition, oral and written.

If I have a school creed it is this: "Teach everything in such a way that the *power* acquired in learning it is of greater value than the thing learned." If our topic be viewed in this light, in its broad relation to the curriculum, what a wealth it adds to school training and how valuable the preparation it affords for citizenship.

What to Study at School and at Home.

By Thos. O. Baker, Prin. P. S. 128, Brooklyn.

I. *Primary Grades:*
  - *a.* In school: Every thing that can be studied.
  - *b.* At home: Supplementary reading; tables committed; memory gems.

II. *Grammar Grades:*
  - *a.* In school.
    1. Fifth, sixth and seventh years: mathematics and geography.
    2. Eighth year: mathematics and history.
  - *b.* At home:
    1. Fifth year: history, spelling and tables committed.
    2. Sixth year: grammar and history.
    3. Seventh year: English and history.
    4. Eighth year: English and electives.

III. *Exceptions:*
  - *a.* If the text book in geography is small, this subject can be studied at home. The only reason for making it a subject for school study is the large text, which is a burden to carry.
  - *b.* That which is to be memorized might better be done at home. The child can repeat aloud, which is a great aid in committing.

I am not sure but that the plan of having two grades in the same room is a good one. It gives to one grade half the time to study. If the Board of Superintendents of New York City had designated more time for study, better results might be obtained.

Children do not know how to study, and no opportunity is given them to learn to study. Too many teachers feel that they are not earning their salaries if they are not actually teaching every minute of the day.

Primary pupils should be given the opportunity of finding out something for themselves. Give them ten minutes to discover the story in the reading lesson and ten minutes to tell the story. Give them time to solve the problems. The teacher's voice must become very tiresome to little children. Have you ever heard issuing from a room a constant "voice hammering," as if the teacher were trying to clinch facts on the inside of every little cranium? Compare such work with that of the quiet teacher who permits the pupils to discover a few facts for themselves. We wonder why our pupils are so weak in oral expression and written composition. Too many never have an opportunity to make their own discoveries, and if they do, are not permitted to express them.

Study and the recitation, in most cases, are combined. In mathematics a problem is given the class, and time is allowed for its solution. This is study. Pupils should be taught how to study a lesson in arithmetic or algebra. If it is a new topic, pupils should be instructed as to how to study it. Not long ago one of my 7B teachers was ill, and I took the class. The subject in algebra was evolution. This is how I had them study the subject: "Boys you have a new topic. To understand it you must study it. It is necessary to know how to study it. This is the way I should do. I look in the dictionary for the meaning of 'evolution.' Next, I examine the illustrations given by the author, including all definitions. Turning to the rule, I read it carefully. It says: 'To find the root of a *monomial*, find the required root of the *coefficient*, divide the *exponent* of each letter by the *index* of the *root*, for the exponent of that letter in the root, etc.' Let us take an example. What is the cube root of $27a^6 b^3 c^9$? I must know first what a *monomial* is. Is the example a monomial? The rule says, find the required root of the *coefficient*. I must know what the coefficient is. The rule also says, to divide the *exponent* of each letter by the *index* of the root. I must know what exponent and index are. Then it is easy to do as the rule says." In this manner we studied "evolution." I then asked the boys to solve the problems given under the rule, and they did so, mentally, both rapidly and accurately. The forty minutes were used in study and recitation. I can see no reason for requiring pupils to solve problems at home. All work in mathematics should be done in school, and should be done in the time assigned to mathematics. None of the stated study periods should be given to mathematics. The study periods should be assigned to the study of geography, or some subject that is to be recited, such as grammar, history, spelling, etc. Too many teachers wish forty minutes for arithmetic; *i. e.*, the recitation, and then forty minutes' study period devoted to the solution of problems. For extra measure the pupils are given additional examples as "home work."

So few, comparatively, of our pupils have, at home, pen, ink and a suitable table or desk. The teacher does not take this into consideration, but demands the same written home work from all. If the teacher could visit the homes of some and could see under what difficulties the children prepare the work assigned, I am certain she would better understand why Johnny plays truant. Johnny must have his home work or receive punishment. He lacked facilities to prepare it; the fault was not his, but the offense was just as great.

Do not understand from my outline that all the subjects indicated must be done at home. It is merely suggestive as to subjects that can be done best at home. Personally, I believe that very little home work should be required. I should not have *written* work done at home, Nature readers, history, geographical readers, critical reading, etc., can be read at home. It is a benefit to require such because it begets the habit of reading. However, if too much is required it has the opposite effect.

Many boys and girls are compelled to labor from close of school until late at night. This is wrong, but there seems to be no way to prevent it. These pupils have no time or inclination to do home work.

It might be a benefit to have a study period in all schools for the upper grammar grades, from 3 to 3:30 P. M. Thirty minutes in school under the direction of the teacher, with all the requisites for study and written work, would accomplish more than sixty minutes of so-called study at home. This would do away with all home study, except some required reading. Pupils might assemble at 8:40 A. M., for twenty minutes of study. The objection to this is that all pupils would not be present and ready for study so early in the morning. Also those attempting to study would be interrupted by the later arrivals.

Teachers should avoid asking of pupils home work which can be done conveniently by only a portion of the class. All required home work should be such that every pupil can do it, no matter what his home environment may be.

The pupils of the last school year, as a rule, come from the better class of homes. Their parents are able to keep them in school. The majority of them have a place at home to study. They are, for the most part, supplied with pens and ink and a table. Yet it is not safe to require written work, for the very few who can not afford these essentials for home study become discouraged and leave school to go to work.

A careful examination of the work of the eighth year programme will reveal the necessity for only a small amount of home work. The unassigned time and required time for study, as planned by the Board of Superintendents, makes but little home work necessary. The critical reading, for the most part, will be done in the recitation. The grammar of this grade is to be found in the reading matter of the grade, including the oral and written composition. The memorizing can be done at home. All the work in mathematics can be done in the time assigned for this subject. The history should be studied in school so as to give the pupil opportunity to consult the reference books in history. This leaves but one study for home, not counting memorizing. It would be best to make the elective a home study. The study period and unassigned time should be given to the study of history and grammar.

Not more than forty-five minutes should be required for home study. In most grades thirty minutes should be the maximum.

If a careful watch were kept, no doubt it would be discovered that the teacher who requires but little home work succeeds quite as well as the one who insists upon much. A prominent District Superintendent told me that he, as a teacher of the graduating class, required little or no home work, and he experienced no difficulty in having his pupils pass the examination for graduation.

Why not then arrange to have pupils do more studying in class? Less recitation and more preparation in the time allotted to the different subjects? Why not interpret the 200 hours given to mathematics to mean that this number of hours is to be given to the study and recitation of mathematics? The 360 hours in English in the seventh year should mean that this time is to be given to the preparation and presentation of English. I understand that nine 40 minute periods are to be given each week to English. We know that composition is class work. What in the schedule indicates that five more periods of 30 minutes each are to be given to English as home work? Are we to understand that the time assigned to each subject means time for recitation, and that all preparation must be made at home except the five 40-minute periods designated as study periods? I do not so interpret it.

Are our teachers using too much time in having the pupils recite? If, perchance, the pupils do not know the lessons then must the teacher come to the rescue, and from her storehouse of knowledge feed the starving minds?

What harm is there in asking the class to learn in the first fifteen or twenty minutes all they can about Braddock's defeat, and then using the remainder, or a part, of the period in allowing them to tell what they have learned? The teacher could guide the investigation and then direct the recitation.

Is it any wonder that frequently a teacher has trouble in holding the attention of a class for forty minutes, while she endeavors to extract knowledge from pupils who do not possess it? If she would send them on a tour of discovery for twenty minutes they would be kept out of mischief, and return laden with facts which they would be anxious to impart.

If the suggestions which this paper contains were used, I feel certain that school would be far more attractive. There would be less truancy, and the pupils would grow stronger mentally. Let us give the pupils an opportunity to do something for themselves; and let us have them do this something in their workshop, the schoolroom.

The Study Hour

By Principal L. H. Tuthill, P. S. 41, Brooklyn.

DURING six years of our elementary school from one and a half to three and a half hours per week are given to the pupils for study in the class room.

The question thus becomes important.

Many of our teachers frankly admit that their pupils do not know *how* to study.

It is easy for the teacher, when the study hour arrives, to sit passive at her desk, while pupils are trifling with open books, but this is not the spirit of the new requirement.

At no period of the day can the teacher be more valuable, at no period should the teacher be more in evidence, than during the study hour, not just as in the recitation, but skilfully guiding the active mind of the child toward that independence of thought and action possessed by the educated citizen.

To illustrate let us consider the study of history.

Good reading is a process of interpretation, of thought getting and thought giving; hence the first step for the student engaged in the study of history is intelligent reading, silently or aloud.

Then follows the analysis of each paragraph orally or in writing. Here the pupil should be made to know the nature of a paragraph, which, as has been said, is to a sentence what a sentence is to a word.

Every paragraph, if it be correct in form, contains a chief thought with one or more explanatory or auxiliary thoughts.

The first step in the analysis is to find the central thought and then the minor, or supporting thoughts.

This process of discrimination forces the child in study to think the thoughts of the historian as he thought them, and also to recognize the essential, to measure thought values and relations.

Inability to do this has caused our children to run over the printed pages of history, picking up a few crumbs here and there, merely the incidentals, while they were blind to the greater truths in the biography of nations.

In the study of the paragraph, if it contains reference to previous events, the child should be required to read and note the page; if reference be made to a place, the geography should be called into use.

In this process, if the content of the paragraph is being assimilated by the child, suggested thoughts, expressing inference and judgment, will constantly arise. If the exercise of the study hour be oral or written these suggested thoughts should find expression and appear in the recitation following.

A part of the study hour in history may also be spent in maping a campaign, preparing a scrap book, or in the use of reference books, looking up topics assigned by the teacher.

With the abundance of reference books and libraries now at our command the opportunities for historical research are increased and doubly valuable.

Nature Study 1A.

Notes for Conversation Lessons on the Horse.

Horse can run, trot, hunt, carry people, drink, swim, race, gallop, jump fences, eat, sleep, draw loads, paw, bite, plough, kick.

Use, habits, appearance, dependence, how serve us and treatment required for service: Shelter, barn, blanket, bed, fodder, grass, hay, oats, two quarts of grain.

Characteristics: Strength, affection, patience, intelligence (very nervous), iron shoes, the blacksmith.

Kinds: Circus (tricks, dance), kneel, stage, hunting, fire, car, ambulance, saddle, policeman's, war, cart, Indian, Shetland, canal, derrick, race, Arab, swift, loving, wild, lasso caught, tamed.

Lives in stable (not in house like cat), lies on dry hay, clean horse with comb, brush; man's best friend, works roads, ploughs, draws sleds, sleighs, gives us pleasure riding, driving, delivers goods.

Parts: Head long (face long), ears, eyes, nostrils wide, velvet nose, mouth very large, neck long, mane, hair on neck; body: broad, strong back (carry people all day, does not tire); legs: slender, long (running); hoofs: grow like our nails (feet) hard case of horn; tail: (covered with long, coarse hair, switch flies off); body: covered with thick coat of short hair (used in plaster), keeps him warm in all but coldest weather, he needs blanket (while standing).

Treat horses kindly, do not jerk reins (hurts mouth) nor whip nor drive fast up or down hill, lames them; give them plenty of hay, oats, water (horse needs two large buckets at a time), puts mouth in water and swallows whole mouthfuls (should not drink until cooled off), horse likes to eat grass in Spring; hoofs used for glue.

Habits: to roll, play, run, whinny, neigh, walk, trot, gallop, obey signals, perform (let children whinny like horse).

Pieces: Dapple-gray, hop-hop, blacksmith, tally-ho, stick laying, fence, trough, grass.

Cow.

Hair is mixed with mortar, bones for knife handles, fat for soap, cooking, candles; oxen plough and draw wagons, horns useful as means of defence; other animals with horns: goats, deer, sheep; horn, hard, strong, substance; in winter eats hay, cornstalks, vegetables, beans, mash salt; killed in slaughter house; butcher, long-horned, short-horned cows; ox very strong but slow, can draw heavy loads of hay, patient and kind.

Parts: Head, eyes (gentle large), nose wider than that of horse, horns, hollow, they grow as cow grows, face sometimes white, legs shorter than those of horse, neck short, body heavier than horse, tail bushy on end and long to brush off flies, milk bag and four stomachs (food pouches), cud (explain); cow covered with thick, coarse skin (leather) and short stiff hair; different colors, red, white, spotted, black, six teeth to bite grass in lower jaw, no upper front teeth, teeth broad and flat for grinding grass until soft; cows make paths in woods and lie in shade; eat pumpkins, apples, grass, hay, beets, turnips; sleep in barns, live twenty years; able to gather quickly large amount of food in any spot and postpone mastication until, later, it returns food to mouth at will, swallows grass without chewing, comes up in small balls (cuds), then she chews fine and swallows.

Cow: use, appearance, habits, dependence.

Drawing: useful, milk (cooking, cream, butter, buttermilk, cheese), cow, paper-folding barn, stick laying, gate or fence, drawing pan, pail, horns, stool, tail, cheese, glass.

Piece: "Thank you pretty cow."

MAKING BUTTER.

In Summer cattle go to pasture, eat grass, clover, stand in water to knees to keep cool, drink water. At night cows are driven into farm yards and milked, in morning milked again and driven to pasture; in winter kept in barn or shed of farm yard; cow very fond of calf, licks it; flesh of calf called veal; cow says Moo.

Grass grows best in moist fields, so cow has broad feet not to sink; feet and legs like sheep, two large toes called cleft; flesh used for meat.

Skin: leather, cobbler, saddler, carriage maker: horns: buttons, combs, knife handles; hoofs: glue.

SHEEP.

Use: habits, appearance, dependence.

Fable: "Wolf and Sheep," boy who cried "Wolf."

Sounds animals make.

Gives wool spun into yarn and woven into cloth.

Sheep provides meat and clothing.

When killed every part of body used.

Lives in fields, eats grass like cow (smaller than cow), size of large dog.

We get mutton, lamb, lamb's wool garments, etc.

Timid; wolf and fox its enemies, lives in flocks, shepherd, shepherd's dog; in winter lives in folds, eats hay, grass, grain; it can live out of doors in the coldest weather, for thick coat of wool grows longer in winter.

In summer their "fleece" is sheared; the sheep are washed in brooks; man catches one by one, turns them on their backs, and with long sharp shears clips off the wool; when the sheep are let go they run and frisk as if glad to be rid of wool.

Wool is cleaned, combed out with iron combs, sent to dye house and made blue, black, brown, etc., then spun into long threads, threads woven by machines into woolen cloth, cloth made into clothes, so that the coat of sheep makes the coat of boy, carpets, blankets, flannels, mats, leggings, mittens, stockings of wool.

Parts: head, face, black eyes, mouth, teeth (like cow); rams, horns to protect sheep and lambs; lambs playful, bleat and say ba-a; nose more pointed than that of cow, ears smaller than those of cow; hoofs: cloven, body smaller than that of cow, legs not covered with "wool."

Drawing: Boy Blue, horn, bell, baa-baa black sheep.

Sheep harmless, kind, innocent, live in pasture, eat grass, drink water from brook; farmer gives them salt.

Piece: Bo-Peep, Mary had a little lamb, This is the meadow.

DOG.

Drive cows, guard house and baby, as pet, growl, do tricks, beg, whine, lick, swim, eat, run, jump, go errands, find children, play, catch rats, carry parcels, wag tail, bark, draw carts; head larger and longer than that of cat, large hanging ears, kind eyes, long nose, large teeth, baby called puppy, greyhound swift, jumps high; setter and pointer to hunt; Eskimo dog draws sleds; spitz (white almost always), fox terrier, black and tan, mastiff (large), pug, dachshund, sheep dog, Newfoundland, poodle, bulldog, foxhound, skye (hairy), spaniel.

Eats meat, bones, bread, candy; drinks water; all colors, jaws strong, can grip like iron, crush bones and swallow; legs and body covered with rough, curly or smooth hair; forgiving, affectionate, trustworthy, docile, clever; wonderful scent; when hot, pants and water runs off tongue.

SQUIRREL.

Flying squirrel nine inches in length, lives in woods or parks; gives little chirpy bark; kept for pet in cages, gambols, plays; color gray, white breast, black or brown, covered with fur, fur made into muffs and tippets; head (ears stand up) small and pointed; hears well; eyes bright and black, nose long, whiskers like cat, mouth has four long front teeth and also pouches; body ten inches long and tail ten inches, tail bushy and holds it over back; four legs; feet, long, thin, five fingers like toes on fore feet of cat, with sharp curved claws to hold on branches.

Food: nuts, acorn, seeds, berries, fruit, corn, raw vegetables; drinks water and milk.

Lives in nests of grass or moss lined with leaves in the hollow of trees or branches, sometimes robs birds' nests of eggs or eats young birds.

Little bag of skin on each side of cheeks just back of mouth, packs it with nuts or corn by means of forepaws; when mouth is shut bags are closed, when he gets home he puts paws against cheeks behind the bag and pushes nuts out, holding mouth open to let them drop; playful, frisky, runs along branches of trees.

Dainty eater, sits on hind legs and holds tail up, nut in fore paws, gnaws shell and pecks meat; says chip, chip.

Can jump, climb, run, scratch, gnaw.

PIG.

Large as sheep, legs shorter; does not chew cud.

Head: large ears that lop over; large blunt nose (snout), snout used to root up ground for seeds and other food; he moves it about to smell things to eat.

Has four large pointed teeth called tusks, and with these can inflict worse wounds than a dog; covered with skin, skin covered with coarse hair; brushes of all kinds made from bristles.

Eats all kinds of food and a great deal, very often while feeding at trough they root each other out of the way, and seem in a great hurry to get all they can; when hungry or caught set up a squeal, and old pig will fight for little ones.

Flesh of swine is called pork and salted and smoked bacon.

Color of skin pinkish with white bristles; some pigs are black.

RAT.

Ears large, can hear every sound; like large mouse, lives same way, same long tail, chisel teeth, sharp claws; eats all food, can gnaw through the hardest nut or thickest boards.

Claws hooked, so sharp will hold it up on a wall or any steep place; clean in their ways; wash faces or brush fur with their paws.

Water rats, house rats, live in stables, barns, wharves, ships, etc.; if in butcher store eats meat, eats masses of vegetables, so cleans pipes; in the country the rat eats the farmers' corn.

Mouse, field, and white mouse (pet), all covered with soft velvety fur, squirrel-like paws and whiskers.

Legs, short, can creep in any hole; paws like squirrels.

Tail long without hair; teeth (four strong cutting teeth in front); nests made of rags, paper, wool; can see in the dark, like cat; little mice pink.

Color: white, gray, brown.

Poem: Five little mice,
Dickory dock,
Merry mice.

HEN AND DUCK.

Where does the hen live? Can a duck live on land? Get food? What does it like best to do? Ever see her swim? Which walks better? Where does she try to get when it rains? Which is better fitted for water? How is the duck fitted for water? How does she look when wet? Cold uncomfortable clothes of hen are wet through.

The duck's clothes do not wet through. Duck keeps water feathers oiled. Her body has a close, warm under-covering of down; hen has not boat-like shape of duck; floats easily on water; moved along by two strong, broad paddles which push against water and so she swims along. If children could draw fingers through a vessel of water, first with the fingers closed and then opened, they will understand the use of web. How does the hen get her food? Why does she need a hard beak? Where does the duck like to feed? (Ponds, wet and muddy places). Duck separates food from mud and water by fringes, bill acts as strainer when she seeks food. Duck eats worms, insects, fish. Finds most of these things in water, often at bottom of pond or ditch. Dives and stretches neck so as to reach bottom. Use eggs and flesh for food; down and small feathers for pillows.

Duck and hen nearly same size, both two wings and two legs feet of both three toes in front, one behind, both covered with feathers; duck has no red comb, long flat bill instead of beak; head greater length, round in shape. Duck has smooth curved neck, long, gently curved body, pointed tail. Hen's body more nearly round, tail more full, legs longer and further front. Compare colors, speak of lovely hues of drake. Duck has webbed toes.

BUTTERFLY.

Have cocoon (funny little brown house the butterfly sleeps in). Caterpillar crawled on trees last fall. One day it set to work and spun house with warm blanket in it; went to sleep all winter; in the spring it wakes up, lays aside its brown wrapper, comes out of its dark house into the sunshine in a new dress. This dress is two spreading wings of most beautiful colors. Crawls no more but can fly among trees and flowers.

PUSSY WILLOW.

Drawing: My name is Pussy Willow; do I look like a pussy? See my pretty gray coat, how soft it is. Pussy's coat keeps her warm, so does mine. I come to tell you it is spring. I am glad it is, so are you. Story of Pussy Willow and Gray Hood.

WILLOW TREE.

Drooping branches. Pussy Willow flowers. Two kinds of flowers (pussies), one with pollen. They grow hugging the stem. Arrangement on stem; pussy's cradle; brown wrapper; color, shape; birds line nests with pussy's fur.

Use of tree: furniture, baskets, whistles, shade.

BUTTERCUP.

My flower is as yellow as butter. It is like a little cup. See the long stem. I grow in the fields. See if you like butter?

Dandelion: Flower bright yellow, leaves are green, stem is long.

Many brothers and sisters, they grow almost every year. Tell of head full of seeds.

Piece: Little Yellow Dandelion.

Daisy: How pretty it is, describe, loves the sun. Grows in fields, long green stem.

ROBIN.

First bird in spring, last to go in fall. Some stay all winter. Live in swamps and feed on berries in winter. Head black, bill yellow. Sings in apple trees, with head up, bill wide open.

Breast red brown.

Nests made of mud and grass, hidden by leaves, on horizontal branch of tree or in shrubs or vines. Greenish blue eggs, four to six. Old birds take turns on nests; after ten days little bare robins come, with shut eyes, big yellow bills, open. Babies chirp for their dinner, want father and mother to be always bringing worms; never satisfied. Father and mother teach little ones to fly, coax, etc. When they learn father and mother pay no more attention to them. In summer robins follow plough over fields to get the worms. Useful to farmers, destroy insects that eat the fruit, but sometimes they eat the cherries.

RABBIT.

Size of cat; white, brown, black or gray, brown and black, gray or mixed. Pink eyes.

Eats cabbage, lettuce, grass, clover, carrots, leaves of plants, bread, tears bark off fruit trees, eats corn, so farmers shoot them.

Head, mouth, whiskers.

Front legs short and provided with strong, blunt claws to dig with. Hind legs long, to hop. Cannot climb. Tail short.

Can jump and run very fast. Good for muffs, tippets; meat is good also.

Lives in deep holes (burrows) it digs in the ground, in nests of dry leaves, hay or down from mother's body to make sof , warm bed for babies. Sleeps most of day, but at night comes out to feed on plants; very timid, but gets tame if kindly treated.

Piece: Baby Bunting.

Seven little rabbits went out to run,
Up hill and down hill, oh such fun!
Jump, jump, jump, see how they run,
Up hill and down hill, oh such fun!

Fable: Hare and Tortoise.

POTATO.

To cultivate language and teach name.

Introduction: Refer to dinner just eaten. Consisted of—lead up to potato.

Develop: Have children select potato from vegetables and other articles on desk. Draw out all the child can say about it. Color of skin, inside, good for, prepare it, explain its source.

APPLE.

Refer to trees, uses, lead up to apple. Parts: skin, pulp, seeds. Color of skin, taste, use.

Poem: Story of Sleeping Apple.

SUN.

Gives light and heat. Melts snow, unlocks streams, helps dry roads, dries cloths, and by its warmth makes all plants grow. Its beauty, sunsets, rainbows dancing on water and wall. Pleasure it gives man and animals. Gives health. Song. Merry sunshine.

CLOUDS.

Some little drops of water, whose home was in the sea,
To go upon a journey once happened to agree.
A cloud they had for carriage, they drove a playful breeze,
And over town and country they rode along with ease.
But oh, there were so many, at last the carriage broke,
And to the ground came tumbling these frightened little folk!
And through the moss and grasses, they were compelled to roam,
Until a brooklet found them, and carried them all home.

Lesson: Our Flag, for 1 A.

Teacher holds flag, up—

What is this ? I will write flag on board. What word did I make? We will talk of *our* flag to-day. What are the colors in the flag? The part with the colors is called banner. The part I hold it by, stick, staff, pole. Stick is to hold banner so it can blow in the wind,

Stick so soldiers can wave it, carry it high up or put over shoulders—to fasten to window-sill, to ship, school or buildings.

Banner made of cloth or silk. Notice red and white (stripes), white stars on blue square, called: Star Spangled Banner, Red White and Blue.

STARS AND STRIPES.

Each country has a flag. Irish, Green ; German, Red, White, Black, etc.

When do we see flags? Holidays, as 4th of July, Decoration Day, parades, Soldier's graves.

Why, in parades, do Soldiers ever carry old bits of torn flags? Because men fought and died for Our *Flag*—of the Free—torn by guns and cannons. Precious because it is not what the flag is made of, but what it stands for (means), that makes soldiers fight for it.

American ships fly it.

REVIEW.

Why more precious than any other piece of cloth?

COLORS.

Is each half red and white? No; stripes red and white—oblong—point banner, stick, etc.

POETRY.

This is my country's flag,
And I am my country's boy;
To love and serve it well,
Will ever be my joy.
Now let us all salute the flag
That floats in glory here,
The flag that Washington so loved,
The flag to us so dear.

BETTY ROSS.

George Washington: tell little if possible. Rise and salute. Sing chorus. Three cheers for the Red, White and Blue.

READING.

The flag is red, white and blue. It is my flag. This flag is pretty. The flag is on the boat. The flag will fly. Have you a flag, Ned? Yes; my flag is little, my flag is not new. Tom has a flag in his hat. Here is Ida.

We are going to play soldiers (new word). Soldiers have flags.

Fred has his drum. Baby has a soldier hat. I am a big soldier. Ned has a cap, too.

Let us go to mama, she likes soldiers. Here are soldiers mama! Mama says, I see the soldiers. You are pretty soldiers. You have flags and drums.

Run away Dash—you cannot play. Do you see my drum, papa? Hurrah! Hurrah!

Language in the 1A Grade.

By Leonora F. Stoeppler, P. S. No. 11, New York City.

THE language work in this grade is of great importance. The child enters upon his school life with a limited vocabulary, an imperfect manner of expressing his thoughts and observations.

To increase his vocabulary, to teach him to think, to remember, to use his judgment and to observe, to help him express in good English what he has thought, seen, or remembered must be the aim of the teacher of this grade. The methods employed must be clear and well formulated in the teacher's plan, but the lessons should be conducted in a pleasant and informal manner.

In the first few weeks of school the child is shy and sometimes feels the strangeness of his new environment. The teacher leads him to speak of his home life, what he saw on the way to school, or has an impersonal little talk on a good picture illustrating an interesting phase of child life. She begins with what is nearest to the child himself, and gradually leads his thoughts away from himself to other things, proceeding, as the old familiar maxim has it, "from the known to the unknown, from the near to the more remote." Almost all small children (and many large ones, too) like to talk. They will soon tell little incidents of home life, tell anecdotes of their pets and the baby's funny ways.

The teacher leads them to appreciate what is highest and best in literature and art, by showing them the best pictures which the great masters have delighted to paint of children and animals. She tells them stories in which heroism, adventure, unselfishness and imagination play a prominent part. Lastly, she stores their minds with pretty verses, simple rhymes, and noble thoughts simply expressed. Thus she trains the memory, increases the vocabulary, and when the selections are recited insists that each word shall be pronounced clearly and distinctly.

There should be conversation daily on the topics suggested and also on the weather, the nature work, etc. Once a week there should be a longer conversational exercise with a definite subject. This should be an ethical lesson and requires much tact on the part of the teacher to keep it from degenerating into a mere moral task which is distasteful and uninteresting, even to children. This lesson should be introduced, if possible, by an anecdote illustrating the virtue to be inculcated, and the children encouraged to give their opinions.

Another day the language lesson may be given to picture study, the next to reading or telling a story which is reproduced on the following day by the children. The memory selection is taught on the fifth day.

At the end of the term each child should have confidence in speaking before his classmates, should speak clearly and enunciate distinctly, and have a vocabulary considerably larger than when he entered the school some five months before. He should always tell a fact in a reasonably correct sentence, avoiding the long involved compound sentences which a child uses, connected with *and*, *so then*, etc. He should correctly pronounce such words as *can*, *was*, *for*, which are very frequently mispronounced. He should have a small stock of stories and anecdotes and be able to repeat from memory at least a dozen short selections.

Material for 1A language work is given below in a suggestive plan arranged by months.

SEPTEMBER.

CONVERSATIONS: Home life: what mother does; what I do after school; our baby; what I can do; what I can see; what I can hear; where I can go; what I like to play.

PICTURE STUDY:
"Madonna and Child;" Feruzzine.
"Can't You Talk?"
"Which Do You Like?"
"Family Cares."

STORIES FOR REPRODUCTION:
"Old Mother Hubbard."
"Moufflox," from "The Story Hour," by Kate Douglas Wiggin.
"Dick Smiley's Birthday."
"Dame Trot and Her Cat."

ETHICAL LESSONS: These are to be connected when possible with picture-study or stories told for reproduction.
Punctuality—its importance in school life as in business life.
Kindness to animals.
Usefulness.
Obedience, respect for parents.

OCTOBER.

CONVERSATIONS:
The ripening of fruits, coloring of the leaves, other signs of autumn.
What the farmer is doing; what the animals are doing, as the squirrel (connect with nature study).
"I saw"—(on the way to school, etc.), to correct "I seen." Teacher holds objects before the class and says "I saw——"

PICTURE STUDY:

"The Cat Family."—Adams.
"A Primary School in Brittany."—Geoffrey.
"The Gleaners."—Millet.
"The Harvesters."

STORIES FOR REPRODUCTION:

The Story of Columbus.
"Dick Wittington and His Cat."
"Diamonds and Toads."—Boston Kindergarten Stories.
"The Ugly Duckling."

ETHICAL LESSONS:

Our country; its government, respect for law and rulers.
Industry, the dignity of labor.
Gentleness in speech and manner.
Kindness to the aged and unfortunate.

NOVEMBER.

CONVERSATIONS:

Preparation for winter cold; how father and mother prepare for winter—get in coal and wood, buy warm clothing, preserve fruits, etc.

Hiawatha. Indian child-life. Read short selections from the poem and show pictures. Necessity for food and shelter; contrast our life and homes with life and home of Hiawatha.

Lead children to express gratitude; what we are thankful for.

PICTURE STUDY:

"Pilgrim Exiles."—Boughton.
"The First Step."—Millet.
"The Blacksmith."—Frère.
"At the Watering Trough."—Bouvert.

STORIES FOR REPRODUCTION:

The Pilgrims.
The First Thanksgiving.
"Jack and the Beanstalk."
"The Three Bears."

ETHICAL LESSONS:

Gratitude, self-control, helpfulness.

DECEMBER.

CONVERSATIONS:

Nature asleep, birds, flowers, animals.

Life in cold countries where it is always winter.
Gifts and giving. Encourage a spirit of love and the love of giving.

Picture Study:

"A Mother's Care."—Israel.
"Mother and Child."—Le Brun.
"A Girl and a Cat."—Hoecker.

Stories for Reproduction:

"Picciola"
"The Fir Tree"
"The Porcelain Stove"
} from "The Story Hour," by Kate Douglas Wiggin.

Ethical Lessons:

Love, kindness to those weaker than ourselves, unselfishness, the joy of giving pleasure to others.

January.

Conversations:

Cold weather, snow, ice.

The new year. How many months? Which are winter months? Which spring? Which are summer months? Is there school then? Which are the autumn months? Who can name some holidays which will come this year?

Picture Study:

"Children of Chas. I."—Van Dyke.
"Feeding the Birds."—Millet.
A Family at Home.—Adams.
"Winter Sports."

Stories for Reproduction:

"The Fairy's New Year Gift."—Emilie Poulsson.
"Thumblerig."—Hans Christian Andersen.
"Story of the Sunbeams."—Boston Kindergarten Stories.
The Dishonest Woodman.

Ethical Lessons:

New opportunities of the new year.
Truthfulness in speech and action.
Cheerfulness, smiling faces, kind greetings, honesty.

February.

Conversations:

Same as suggested for September. Also winter sports and pastimes, toys, pets, our country.

Picture Study:

Same as suggested for September.

STORIES FOR REPRODUCTION:

Abraham Lincoln as a Boy.
George Washington as a Boy.
Stories suggested for September.

ETHICAL LESSONS:

Patriotism, bravery.
Industry, honesty, truthfulness, true greatness as illustrated in the lives of Lincoln and Washington.

MARCH.

CONVERSATIONS:

Signs of Spring—lengthening of the days, melting snow, softening of the ground, birds returning, buds, the Spring winds.

PICTURE STUDY:

"The First Step."—Millet.
"Old Woman Spinning."
"In the Open Country."—Dupré.
"Can't You Talk?"

STORIES FOR REPRODUCTION:

"Somebody's Mother."
"Dick Whittington and His Cat."
"Diamonds and Toads."—Boston Kindergarten Stories.
"Five Peas in a Pod."—Andersen in Boston Kindergarten Stories.

ETHICAL LESSONS:

Duties to the Aged and the Unfortunate.
Kindness to Animals.
Gentleness in speech and manner.
Cheerfulness, smiling faces, kind greetings.

APRIL.

CONVERSATIONS.

What the farmer is doing; what the birds are doing; budding leaves and flowers; the first Spring flowers. Children's observations of signs of Spring, the rain, the sun.

PICTURE STUDY:

"The Song of the Lark."—Breton.
"A Helping Hand."—Renouf.
"Feeding the Hens."—Millet.
"Potato Planting."—Millet.

STORIES FOR REPRODUCTION:

"Jack and the Beanstalk."
"The Morning Glory Seed."—Boston Kindergarten Stories.
"Little Servants."
"In the Child's World."
"Three Little Pigs."

ETHICAL LESSONS:

Great oaks from little acorns grow.
Neatness in person and belongings.
Cheerfulness—making sunshine.
Gratitude to farmer who works for us all.

MAY.

CONVERSATIONS:

Children's observations of industries, trades, professions, observations of weather, flowers, birds, etc.

PICTURE STUDY:

"The Sheep Shearing."—Millet.
"The Blacksmith."—Frère.
"At the Watering Trough."—Bouvert.
"Saved."—Landseer.

STORIES FOR REPRODUCTION:

"Goody Two Shoes," from "In the Child's World."
"The Little Hero of Haarlem."
"The Meeting of the Winds," from "In the Child World."
"Jack and the Jenny Sparrow."

ETHICAL LESSONS:

The dignity of labor, true heroism, doing one's duty every day, gentleness.

JUNE.

CONVERSATIONS:

The new month, weather, birds, flowers, sun, moon, stars.
Children's observations.

PICTURE STUDY:

"The Hay Harvest."—Le Page.
"A Primary School in Brittany."—Geoffrey.
"Mother and Child."—Le Brun.
"Girl and Cat."—Hoecker.

STORIES FOR REPRODUCTION:

"A Lesson of Faith," from "In the Child's World."
"The Sun and the Wind."—Æsop.
"The Story of a Breeze."—"In the Child's World."

ETHICAL LESSONS:

Happiness, respect for age, misfortune, weakness and authority.

Nature Work in 1B.

By Kate Burnet and Mary A. White, P. S. 171, Manhattan.*

Ninth week. Corn, two lessons.
Tenth week. Pumpkin, two lessons.
Eleventh week. Cat, two lessons.
Twelfth week. Cat, two lessons.
Thirteenth week. Mouse. Rabbit.
Fourteenth week. Rabbit, two lessons.
Fifteenth week. Carrot. Duck.
Sixteenth week. Duck. Geranium.

CORN.

Material. Cornstalks. Corn with husks and without. Corn meal. Pictures of corn fields and of crow.

Outline. I. Recognize and name. Maize or Indian corn. Why so called ?

II. Where it grows. Planted in the spring in country fields; in many long rows. Protected by scarecrows when young.

III. Description:

- *a.* Roots—many like threads or strings.
- *b.* Stem—smooth, stout, tough, jointed, tall.
- *c.* Leaves—long, narrow, tough, clasping stem. Green, bleaching to brown.
- *d.* Ear—seeds of plant called kernels, arranged in rows on central part called cob. Surrounded by many layers of tough, thick husks. Whole is called ear. Kernels yellow, sometimes red.

Lesson II. I. Adaptation to surroundings:

- *a.* Many fibrous roots hold the tall plant firmly in its place.
- *b.* Tough stem not easily broken by wind, rain or weight of ears.
- *c.* Long, tough leaves not easily torn or broken.
- *d.* Seeds covered by many layers of husk to protect from insects and animals, and also from wet and cold.

Lesson II. Uses: Stalks and leaves as food for animals. Kernels taken from cob; ground into meal and used as food for people and animals. Green corn before kernels have hardened is boiled and used for food. Popcorn sometimes used as food.

Kernels saved from year to year used as seed.

Cob; used as fuel.

Literature: Tell or read selections from "Hiawatha's Fasting," "Blessing the Cornfields."—H. W. Longfellow.

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* The first eight weeks' work appeared in the December "Monographs."

Selections from "The Corn Song."—J. G. Whittier.

"How the Corn Grows." (finger play).—Emily Poulsson.

Tell stories of primitive ways of raising corn and of preparing it; also Story of Pilgrims' first finding the Indian Corn.

PUMPKIN.

Material. One pumpkin at least. Blackboard and other pictures of pumpkin and vines. Pieces of pumpkin that children may see pulp, rind, seeds, etc., and taste pulp.

Outline. I. Name and recognize.

II. Description:
- *a.* Shape, round or nearly so.
- *b.* Color, golden or orange.
- *c.* Surface, smooth, glossy, ribbed.

III. Parts:
- *a.* Rind. Thick, hard, protecting inner parts.
- *b.* Pulp. Thick, dry, insipid.
- *c.* Seeds. Many, flat, inside the pulp surrounded by stringy mass.

IV. Plant:

The pumpkin grows on a vine which runs on the ground. It is often planted between the rows of corn, which protects the pumpkins from the early frosts.

Literature. Selections from The Pumpkin.—J. G. Whittier.

"Another Thanksgiving Story." A History Reader for Elementary School.—S. S. Wilson.

THE CAT.

Material. Picture.

The cat family.—Adams.

Introduction: Conversation lesson about picture. Have children tell about their own cats.

Habits: Catches mice for food. Very clean, keeps itself so with its tongue and paws, climbs trees and fences.

Characteristics: Likes to live in the house, purrs when petted. The old mother cat is very loving to her little kittens; she carries them by the neck. Pussy dislikes to step in the water. She can jump faster than a boy can run.

Feet: The cat has four feet; the front ones are called paws. There are five toes on the paws and four on the hind feet. In the middle of each foot is a big cushion, and a little cushion is on each toe, so that she can walk without making a noise. At the end of each toe is a sharp claw, which the cat uses when she climbs trees n d catches mice and rats. The claws grow very fast, and pussy sharpens them on wood to wear them off. She can draw them in out of sight. The cat wets the ends of her paws in her mouth and then combs her hair with them.

Covering. Soft hair called fur, which falls out in the Spring, but is thick in the Winter to keep her warm.

Color. White, black, gray, white and black, Maltese, tiger and yellow.

Eyes. Let the children look into each other's eyes to see the little dark spot in the centre. Tell them it is the window which lets in the light so they can see. Draw on the blackboard the long slit representing the pupil of the cat's eyes, which shows its shape during the day. This is the window which lets the light into the cat's eye. Draw another eye which shows that the pupil has grown round and large so that enough light is let in to enable the cat to see at night as well as in the day time. The little kitten's eyes are blue, but as they grow older, they become green.

Tongue. The cat's tongue is very rough because it is covered with little hooks, so that she can get the meat off bones. Her tongue is so rough she can lap up milk by making the tongue take the shape of a spoon. Pussy uses her tongue to keep herself clean; it is so rough she uses it to comb her hair.

Feelers. On each side of the cat's mouth are long white hairs, very stiff. When pussy sees a hole which she wants to go through, she measures it with her feelers, and if it is large enough for them it is large enough for her body to pass through.

Ears. The cat has two long, pointed ears which stand upright. She can hear very quickly with them.

Food. Milk, mice, and all kinds of meat.

Game. Mrs. Pussy sleek and fat. Emilie Poulsson.

Poems: "I Love Pussy." Mother Goose.

"Kitten Rhyme." Emilie Poulsson.

"I've a Dear Little Playmate."

Story: Mrs. Chin Chili. Kate Douglas Wiggins.

Spotty's Family. Emilie Poulsson.

Mouse. Materials: Picture of mice. The children's previous observation and experience.

Outline.

I. Name:

II. Description:

- *a.* Size, small.
- *b.* Color, gray or slate-color.
- *c.* Covering, very fine, soft, short fur.

III. Parts:

- *a.* *Head*—pointed. Eyes bright and black. Eye-sight very keen. Senses of smell and hearing very acute; whiskers like a cat. Teeth, sharp and shaped like a chisel for gnawing.

b. Limbs—Small and short with sharp claws so that he can run up walls.

c. Tail—long, slender and hairless.

IV. Home: In walls of buildings and in attics and cellars. The field-mice and wood-mice make their nests out of doors.

House-mice often gnaw holes in clothing and in paper to get materials for a soft lining for their nests.

V. Habits: The mice run about in the walls and at night often come from their holes to run about rooms. If they smell food, they will gnaw a hole through the wall with their sharp teeth in order to get it.

VI. Food: Mice will eat grain, insects, fruit and almost any kind of food which people leave in their pantries.

Literature:

"The Lion and the Mouse."
"Story of a Mouse."
"The Mice in a Robin's Nest."
"The Little Harvest Mouse."

THE RABBIT.

Material. Picture of rabbits, or rabbit in school if possible. (Compare with cat; size, covering, ears, tail.)

Home. Some rabbits burrow holes in sandy ground and others make nests of dry leaves and grass. Each house has a great many rooms. The mother has separate rooms for her babies. She lines her babies' rooms with fur from her body.

Food. The rabbit has very sharp teeth and likes to gnaw the bark from young trees. This sometimes kills the trees. They also like to eat grass, leaves, and cabbage. Farmers do not like to have rabbits in their gardens as they eat up the vegetables.

Characteristics. Some rabbits are very tame and children often have them for pets. They call their rabbits "Bunny." It is so tame it will eat from their hands. Bunny has very long hind legs, but short paws. He never runs, but hops along the ground. When he eats, he sits up like the squirrel and holds the food in his paws.

The baby rabbit has no fur and cannot see for twelve days.

Like the cat, it washes its face with its paws. Rabbits will not live long if handled much. They should be carried by their ears. Sleeps during the day and looks for food at night.

Covering, Color. Wild rabbits are gray, tame ones are black or white and sometimes black and white. In the winter the fur turns white. The fur is soft.

Ears. The ears are very large, and are on the top of the rabbit's head; when the rabbit is listening or eating they stand up, but when the rabbit is running the ears lie down. When the rabbit hears any sound, it does not wait to find out what made it, but makes longer jumps to its hole and waits until all is quiet again before it leaves the hole.

Feelers. The rabbit has feelers like the cat.

Story. "The Two Rabbits." Emilie Poulsson.

Story. "Mollie Cotton Tail." Ernest Seton Thompson.

Story. Easter Legend of Rabbits.

Fable. "Rabbit and the Turtle."

Song. The Bunny Song. Miss Hoxie.

CARROT.

Material. A bunch of carrots from any grocer will give the children enough material for observation.

Outline. I. Name:

II. Where obtained? A farm product, as are the other vegetables and fruits studied. Refer to farmer as working for us all. Review other things which farmer gives us.

III. Parts:

- *a.* Leaves—feathery, green, in a bunch from top of root.
- *b.* Root—orange or yellow; long and round, tapering to a very fine thread-like end. Naturally some small fine roots on side.
- *c.* Flowers.—The children cannot have these for observation, but will like to know that the carrot has fine white flowers in large bunches.

IV. Use: The carrot is used as food for people and for animals. Referring to lessons on the rabbit, the children will remember, perhaps, that they have seen rabbits eat carrots.

This lesson may be followed by a drawing lesson, as the carrot is an easy subject and the children enjoy using the soft crayons to make its picture.

THE DUCK.

Material. Picture of duck with proper coloring; also sketch on black board showing duck and ducklings swimming.

To give idea of boat-shaped body, draw a boat; then, add the necessary strokes to change to duck's body. Get a duck's foot from the butcher.

From the sketch the following facts can be got by proper questioning:

Home. Ducks like to live near a pond, where there are weeds and stones and a sunny bank near by, where they can sleep after coming from the water.

Food. Worms, water bugs, roots of plants and grain. The duck dives under the water, and can stay some time, searching for food.

Parts. Head, green, with a collar of white feathers around neck.

Bill. Yellow, long, broad, with hook at end. The duck has no teeth, but there are little notches on each edge, so that it can let the water run off the food it gets from the mud.

Body. (Here use sketch of boat.) Shaped like a boat.

Color. Brown and white.

The feathers are very thick; next to the skin, is a coat of down, which keeps it warm. The down on the breast is filled with oil so that no water can get to the skin.

Tail. Short, straight, pointed. The duck uses her tail as a rudder.

Legs. The legs are so short that the duck can not walk very fast, but waddles. There are three toes on each foot. Between the toes is a rough skin. This enables the duck to swim. This skin is called a web.

Story. "The Ugly Duckling." Hans Christian Andersen.

Game. Duck Game. Miss Jenks.

GERANIUM.

Material. The whole plant, which should be kept in the classroom for continued observation.

Outline.

I. Name:

II. Home: This, like the chrysanthemum, is a house plant for much of the year.

III. Whole plant: small, stocky.

IV. Description:

  a. Roots. Where? Why in earth instead of water as with some of our flowers? (Growth.)

  b. Stem comparatively large; hairy; brittle.

  c. Leaves rounded; spotted; velvety.

  d. Flowers—red, white, pink or variegated; unpleasant odor.

  e. Use—in flower beds and as house plant as ornament.

Nature Study in 2B Grade.

By Otilda C. Meyn, P. S. No. 53, Brooklyn.

FEBRUARY.

First Week. Horse, donkey, mule.
Second Week. Camel.
Third Week. Deer, goat.
Fourth Week. Sheep.

MARCH.

First Week. Bluebird.
Second Week. Scarlet Tanager.
Third Week. Ceropia, polyphemus.
Fourth Week. Cynthia, cabbage butterfly.

APRIL.

First Week. Robin.
Second Week. Swallow.
Third Week. Sunflower, morning-glory.
Fourth Week. Nasturtium, radish.

MAY.

First Week. Onion, hyacinth.
Second Week. Tulip, crocus.
Third Week. Strawberry, cherry.
Fourth Week. Currant, raspberry.

JUNE.

First Week. Asparagus, lettuce.
Second Week. Buttercup, jack-in-the-pulpit, columbine, wild geranium.
Third Week. Crocus, snow-drop, star-of-Bethlehem, pink.
Fourth Week. Azalea, sweet-pea, honey-suckle.

HORSE.

The horse is known by the single perfect toe upon each foot. The horse is covered with hair which is black, white, or gray-spotted, also shades of brown. The hair is shed in spring and is longest in the winter. It is very cruel to clip the horse's hair, for it deprives it of its natural warmth. The tail is made of long straight hair and the horse needs it to defend itself from the insects.

The horse eats grass, oats, hay and bran. It is very intelligent. The horse can pace, walk, trot, gallop, run and swim.

The young is called a colt. It is fed on milk and is able to work after three years.

The horse is not only useful as a beast of burden and pleasure, but also after death. The flesh is used as food for dogs. Buttons are made from the bones, and the hide is made into leather for gloves and coverings for chairs. The hoofs are boiled and made into glue. The hair is used for mortar, mattresses, saddles, and bows for violins.

DONKEY.

(*Comparison with the horse.*)

The donkey is smaller than the horse and is covered with brown or dirty white hair with a cross on its back.

The tail is slim and has long hair only at the end. The head of the donkey is large and has no mane. The donkey has very large ears and small hoofs. It eats thistles and weeds that grow by the roadside. The donkey eats what a horse would not touch.

The donkey can carry heavy burdens and can travel in places where a horse's strength would give out. Its manner of expression is braying. The donkey needs kind treatment.

MULE.

The mule is stronger than the donkey or horse. It is the young of the horse and donkey. The mule is used as a beast of burden.

CAMEL.

The camel is known by the hump or humps on its back. The feet are divided into two sections containing a short nail and horny sole. The camel fastens the sharp nail into the sand while the flatness of sole forms a fresh support.

The humps are storehouses. They retain the fat for days of need. The stomach is composed of a paunch that contains cells to hold a supply of water. This lasts them through a journey across the desert.

The camel has brown or chestnut-colored hair. The young is three feet high when born, but the animals attain their full height at seventeen.

It eats anything green and drinks once a day, but if on a journey once in six days.

The camel is valuable as a beast of burden. Camel's milk is as good as a cow's. The hair is made into fabrics for tents and clothing. The skin is an excellent quality of leather.

DEER.

The deer is characterized by its branching antlers or horns that are cast yearly. Toward the end of spring, there is an increased flow of blood to the head. The blood-vessels become larger and budding horns appear. They grow very rapidly, in less than ten weeks.

The hair is light brown in summer and a reddish gray in winter. The under part of the throat and tail is white.

The head is pointed. The legs are slender and the hoofs small.

The deer moves like a bounding ball rather than a walking, running, or leaping.

The skin is the warmest of clothing. The flesh and tongue serve as a delicious food.

GOAT.

The goat has straight hair which changes from a reddish brown of summer to the grayish-brown of winter. The face and back have a stripe running along them. The hoofs are split. The goat can run very fast and can climb rocky places. It defends itself by its long sharp horns, which are three feet in length and full of ridges.

The young is called a kid. The horns are used as handles for paper-cutters. The skin is made into leather for gloves, shoes and book-binding. Milk can be obtained from the goat, and cheese and butter can be made from the milk.

SHEEP.

The sheep is covered with wool that is short in the warm season and grows wavy and long as the cold weather approaches. It is brown above and white beneath. It lives out-doors in cold weather and has an oil to keep the wool from getting wet.

The sheep has large, movable ears and can hear sounds from all directions.

It has a split hoof and two toes above this hoof, which help it to ascend hills. The sheep defends itself by means of the twisted horns. The young is called a lamb.

The flesh is used as mutton and lamb. Tallow and suet are made from the fat. The skin is used for lining satchels, pocket-books and binding books. The wool is used for cloth.

BLUEBIRD.

The bluebird is found in America. It is blue above and rusty red underneath, and thus can be compared to the earth and sky, the earth being red and the sky, blue.

The bird is seven inches long. It builds its nest in a hole in the tree. Its eggs are pale blue and from four to six in number. The orchard shelters the bluebird. Its call is purity, purity.

SCARLET TANAGER.

This is a rare and splendid bird, its favorite resort being in oak groves. It derives its name from its color, but its wings are velvety jet black. The nest, which is made of loosely woven straw and twigs, is built in low bushes, but frequently in tall oaks. It contains from three to four eggs of a light greenish-blue, marked with brown and lilac.

The tanager is seven inches long. It feeds on insects and berries. The call-note is tschip, tschurr, uttered in a hoarse voice. The song is such as a robin with a cold might produce.

At the end of summer the whole family migrates southward and remains in the tropics till the following spring.

INSECTS.

CEROPIA.

The cocoon is brown and oval in shape. The caterpillar may be found on the apple, cherry, or plum tree. It changes from a deep yellow to a light green before becoming a chrysalis. The ceropia is of a cinnamon-red-brown color. The hind wings have crescents of red and white. The eyes are black. This insect can live about three weeks without food.

POLYPHEMUS.

The cocoon is of a large, yellowish brown color. The caterpillar is large, handsome, pea-green in color. The legs and head are light brown, and the insect has a green V-shaped tail. The polyphemus moth has soft-hued wings bordered with gray, showing two spots on the hind ones, of a dark blue-black with a transparent oval which looks like a window. The body is soft brown and with a collar of a lake color. The polyphemus has large eyes and six short, brown legs.

CYNTHIA.

The cocoon is made with the leaf on which it feeds, drawn entirely about it, and this is securely fastened to the tree stem.

The chrysalids are of a dark, yellowish-brown color. The cocoon gives forth a large moth of great delicacy and beauty of coloring. The body is thick and looks like soft, dark cotton, with a close dotting of white tufts. The wings are of a green color with lavender markings and a crescent upon each wing.

The cynthia is a native of Japan and China.

CABBAGE BUTTERFLY.

This is the white butterfly seen in the city streets. As the name indicates, the caterpillar of it feeds on cabbages and does them much harm.

This butterfly has knobbed feelers, large compound eyes, and a coiled tongue. It has three pairs of legs, and two pairs of wings are attached to the body. The wings are covered with scales.

The cabbage butterfly has no cocoon; there is simply a loop of silk to hold the front end of the body in place and a flat bunch of silk against the support to which the hind end is attached. The chrysalids may be found on fence boards, the sides of houses, barns or stones.

Reference books:

Moths and Butterflies, by Julia Ballard.

Insect Life, by John H. Comstock.

ROBIN.

The robin is ten inches long. It is of a bright, orange color. The head is black, its back is brown and its breast a reddish brown. The robin is not an intelligent bird. It builds a heavy, bulky, mud-lined nest on branches not capable of supporting such a weight. The eggs are of a blue-green color and are four in number.

The robin eats fruit, cherries, strawberries and worms. The robin's call is cheerily, cheerily, cheer-up.

SWALLOW.

The swallow is a swift bird, of a black-brown or grayish color. The bill is short and has an enormous gape, which is kept spread when the bird is flying. The movement of the swallow is slow and awkward. Its nest is built on the ground or flat rock. It lays from two to four eggs. There is also a barn swallow which is very handsome. It builds its nest of mud on rafters of old barns.

Reference books:

Bird World—Stickney-Hoffmann.

Bird Portraits—Ernest Seton Thompson.

Seed and seedlings (including sunflower, morning-glory, nasturtium and radish).

Observe the different ways that the seedlings come out of the ground. The parts of the seedlings are root, stem and leaves. The uses of the parts of the plant. Need of light and warmth. Encourage the pupils to raise plants at home. The seeds contain the embryo, that is the little plant is already formed in the seed. In the morning-glory it is rather large and may be readily got from a fresh seed. By laying the embryo out flat we can plainly see what it contains. It is a pair of tiny leaves on the summit of a little stem. The seeds imbibe moisture through the coats, swell a little and the embryo gradually wakes from its long sleep and stretches itself. The tiny stem lengthens and its end bursts through the coats of the seed; at the same time the two leaves it bears grow larger, throw off their coats and spread out, as leaves naturally do. The end of the stem turns downward and points into the earth to get amid the dark and damp soil. The other end of the stem turns upwards to seek the light and air.

DEVELOPMENT OF BULBS.

Onion, hyacinth, tulip, crocus bulbs placed in moist sawdust, soil or water. Observe the development of the roots, stem and leaves. From the bottom of the bulb, roots descend into the soil to absorb moisture and other matter from it, while above, it sends up leaves to digest and convert these matters into real nourishment. As fast as it is made, this nourishment is carried down to the bottom of each leaf. The thick leaf-bases crowded together make up the bulb. After having done its work, the blade dies off, leaving the thick base as a bulb-scale.

STRAWBERRY.

The strawberry is a small fruit growing on a low plant running on the ground. It has a red berry. It grows wild in all parts of United States. The berry has a sour taste, but, by combining sugar with it, forms a delicious dessert.

CHERRY.

The cherry tree grows one hundred feet high. The parts of the fruit are skin, pulp and seed. The cherry can be used fresh, canned and dry.

CURRANT.

The currant is a small kind of grape. Both red and white currants grow on bushes and are also trained against walls. Those trained against walls produce larger fruit. Currants grow in clustered bunches. The berries are eaten raw, used in pies or jelly.

RASPBERRY.

The raspberry loves a rich soil and is partial to shady situations. The berries are red, yellow and white. They are used for sauce and jellies. Also for making or flavoring many kinds of sweetmeats. It is prepared as medicine in cases of fevers and other diseases.

ASPARAGUS.

The asparagus is an herb with a stem unarmed in some, in others, thorny. It is very much branched with numerous bristle-like leaves. They grow on banks of rivers, on the sea shore, in meadows and especially in sandy soil. It is also in general cultivation as a garden vegetable. Its young shoots, which first sprout from the earth, form a much-esteemed article of food, which, however, is only in a slight degree nutritious.

LETTUCE.

The lettuce has a leafy stem, oblong leaves, a spreading flat-topped panicle with yellow flowers. Lettuce is easy of digestion and moderately nutritious, and is generally eaten raw with vinegar or oil. It is also used as a boiled vegetable.

BUTTERCUP.

This flower is found in the meadows and blooms from May to June. The petals are yellow and five in number. The leaves are divided and cut.

COLUMBINE.

The columbine is found in the woods and grows from twelve to eighteen inches high. The stems are branching. The leaves are much divided. The flowers are large and of a bright red color, yellow within. This flower gives the nodding effect. The corolla is composed of five petals, which are red without and yellow within.

JACK-IN-THE-PULPIT.

These quaint little preachers in their delicate pulpits grow in the woods. Sometimes these "pulpits" are of a light green color, stained with purple. This plant is known as the "Lords and Ladies" by the children, the purple-tinged ones being known as the "Lords" and the light-green ones as the "Ladies."

WILD GERANIUM.

This plant grows in the open woods and shaded roadsides. The stem is erect and hairy. The leaves are five-parted. The flowers are pale pink or purple and rather large.

CROCUS.

The crocus rises from a corm or bulb. They flower in the spring and grow in gardens. They are of a violet, purple, white or yellow-striped color.

SNOW-DROP.

The snow-drop is a white drooping flower in the form of a bell, which derives its name from its resemblance to a ladies' earrings or drops, as they were formerly called. A single flower grows on a long stem.

STAR-OF-BETHLEHEM.

The star-of-Bethlehem is bell-shaped and grows in a cluster. It is a pretty white flower and is cultivated in gardens.

PINK.

The pink is rather large and showy. They are of a red, pink or white color. The petals have long claws enclosed in the tube of the calyx. The stem is from four to eight inches high. The leaves are lance-shaped.

AZALEA.

The azaleas are named from the dry places in which they grow. They are large, handsome, bell-shaped flowers. They are very fragrant and grow in large clusters of white, orange and purple.

SWEET PEA.

They grow two or three on a stem. They are sweet-scented and are cultivated for ornament. The flowers are pink and white.

HONEYSUCKLE.

The honeysuckle is a shrub about four inches high. The leaves are oblong-shaped and arranged opposite one another. The flowers are yellow, tinged with red and clustered in three's at the summit of a stem or in the anvils of leaves. The corolla is funnel-shaped. The flower is noted for its abundance of nectar. The lower part of the corolla is deeply colored, thus advising the bee of its secreted treasure.

Reference books:

How to know the Wild Flowers, by Mrs. William Dana.

How Plants Grow, by Prof. Gray, M. D.

English in Grade 2A.

By Mary B. Thornton, P. S. No. 53, Brooklyn.

FEBRUARY.

First Week.

Conversation: Promotion. What we shall do in the new term (Give special attention to the ethical side of school life.)

Story for Reproduction: The Elves and the Shoemaker.

Poem: The Rock-a-Bye Lady. Eugene Field.

Picture: Shoeing the Horse. Landseer.

Reading to children: Stories from "Reynard the Fox."

Second Week.

Picture: Lincoln's Boyhood (Lincoln by the fireside.)

Stories for Reproduction: Stories of Lincoln's kindness to animals. Lincoln and the pig. Lincoln and the turtle.

Poem: The Rock-a-Bye Lady. Eugene Field.

Conversation: What the horse does for us. How the horse should be cared for.

Stories for reproduction: The Bell of Atri, the story having been adapted for this grade.

Reading to Children: The Lamp-lighter. R. L. Stevenson. Dutch Lullaby. Eugene Field. Stories from "Reynard the Fox."

Third Week.

Conversation: What children did on Lincoln's Birthday.

Story: Hercules and the Wagoner.

Poem: The Rock-a-Bye Lady. Eugene Field.

Picture: At the Watering Trough. Dagnan Bouveret.

Drill: See suggestions at the end of this outline.

Reading to Children: Stories from "Reynard the Fox."
The Moon. R. L. Stevenson.
The Land of Story Books. R. L. Stevenson.

Fourth Week.

Stories for reproduction: Stories of Washington, illustrating obedience to his mother's wishes.

Poem: The Rock-a-Bye Lady.

Drill: Suggestions at the end of this outline.

Picture: Washington Crossing the Delaware. Lentze.

Reading to children: Stories from "Reynard the Fox."
Jack and the Beanstalk.

Conversation: How We Help Mother.

MARCH.

First Week.

Story for reproduction: Æolus and the Bag of Winds.

Conversation: What the wind does.

Poem: All Things Beautiful. Mrs. C. F. Alexander.

Picture: See note.

Reading to children: Windy Nights. R. L. Stevenson.

The Night Wind. Eugene Field.

Stories from "Reynard the Fox."

SECOND WEEK.

Story for reproduction: Æolus and the Bag of Winds.

Picture: Landscape with Windmill.

Conversation: For boys' class—"How we Fly a Kite."

For girls' class—"How we Make Pinwheels and How we Play with Them."

Poem: All Things Beautiful. Mrs. C. F. Alexander.

Reading to children: The Wind. Anon.

Classic Stories for the Little Ones, by Mrs. Lida Brown MacMurry.

Stories from "Reynard the Fox."

THIRD WEEK.

Story for reproduction: Two Billy Goats. (Lilly.)

Conversation: Description of children's pets.

Poem: All Things Beautiful. Mrs. C. F. Alexander.

Picture. See note.

Drill: Suggestions at the end of this outline.

Reading to children: Tom Thumb.

Puss in Boots.

FOURTH WEEK.

Story for reproduction: The Sun and the Wind.

Conversation: The Signs of Spring. (Warmer air, softening of the ground, large buds on trees, etc.)

Poem: All Things Beautiful. Mrs. C. F. Alexander.

Reading to children: Re-reading of Stories selected by the children.

Picture: Ploughing. Rosa Bonheur.

APRIL.

FIRST WEEK.

Story for Reproduction: Sleeping Beauty. (The waking of earth from winter sleep by the sun.)

Conversation: What the rain does.

Poem: The Swing.

Drill: Suggestion given at end of outline.

Picture: Spring. H. Bolton Jones.

Reading to children: The Sun's Travels. R. L. Stevenson.
Re-reading of stories selected by the children.

SECOND WEEK.

Story for Reproduction: Sleeping Beauty.
Conversation: How the sparrow builds its nest.
Poem: The Swing.
Picture: See note.
Drill: " "
Reading to children: The Ugly Duckling.
A Queer Place for a Bird's Home. (Wiltse's Morning Talks.)
The Sparrow's Nest. Mary Howitt.
The Little Birds. (Easy Steps for Little Feet, 1st Reader.)
Who Stole the Bird's Nest?

THIRD WEEK.

Conversation: What we do in our gardens in April.
Poem: The Swing.
Picture: The Sower. Millet.
Story for Reproduction: The Pea-Blossom. Andersen.

Reading to children: The Dandelion. Classic Stories for the Little Ones. Mrs. Lida Brown MacMurry.

Re-read stories selected by the children.
"Do you ask what the birds say?" Coleridge.

FOUTRH WEEK.

The Swing.

Story for Reproduction: Story of the boy who tried to find the pot of gold at the foot of the rainbow.

Reading to children: The Rainbow. R. D. Sherman in "Little Folks' Lyrics."

Waterbloom (Rainbow). Celia Thaxter.
April Showers. Lovejoy's "Nature in Verse."
Little Raindrops. Lovejoy's "Nature in Verse."
Merry Rain. Lovejoy's "Nature in Verse."
The Sunbeams. E. Poulsson.

Childrens' Experiences. Blowing Bubbles. (The rainbow colors.)

MAY.

FIRST WEEK.

Story for Reproduction: Arbor Day Story. "The Apple Trees," by E. E. Hale.

Conversation: What we do in our gardens this month.
Poem: Bed in Summer. R. L. Stevenson.

Picture: The Nursery. Ernest A. Waterlow. (A picture of springtime.)

Reading to Children: The Three Sisters with Glass Hearts. From "Fairy Tales for the Second School Year," by E. R. Shaw.

SECOND WEEK.

Story for Reproduction: How the Beans Came Up. From "In the Child's World." E. Poulsson.

Conversation: Conversation on flowers brought into the school room.

Poem: Bed in Summer. R. L. Stevenson.

Picture: See note.

Reading to children: The Apple Branch. Classic Stories for the Little Ones. Mrs. Lida Brown MacMurry.

MAY.

THIRD WEEK.

Story: The Goose that Laid Golden Eggs.

Poem: Bed in Summer. R. L. Stevenson.

Conversation: Conversation on flowers brought into the classroom.

Conversation on "Going to the Woods."

Picture: See note.

Drills: See "Suggestions for Drills."

Reading to children: Drakesbill and His Friends.

Puss in Boots.

FOURTH WEEK.

Story: The Cock and the Jewel.

Poem: Bed in Summer. Robert L. Stevenson.

Conversation: Why we keep Decoration Day.

Picture: See note.

Drill: See note.

Reading to children: Re-read stories selected by the Children.

JUNE.

FIRST WEEK.

Story for reproduction: The Story of Clytie.

Poem: Daisies. Frank Dempster Sherman.

Conversation: The games we play.

Picture: The Balloon Ascension. Dupre.

Drill: See note.

Reading to children: The Summer Sun. R. L. Stevenson. My Shadow.

SECOND WEEK.

Story for reproduction: The Dog and his Shadow.

Poem: Daisies. Frank Dempster Sherman.

Conversation: A trip to the seashore.

Picture: Return of the Fishermen. Henry Bource.

Reading to children: The Fisherman and His Wife.

The Amber Witch.

THIRD WEEK.

Story for reproduction: The Golden Touch.

Poem: Daisies. Frank Dempster Sherman.

Conversation: How we prepare strawberries for the table.

Reading to children: The Pigeon and the Owl.

Classic Stories for the Little Ones. Mrs. Lida Brown MacMurry.

Discontent.

Picture: See note.

Drill: See note.

FOURTH WEEK.

Story for reproduction: The Golden Touch.

Poem: Daisies. Frank Dempster Sherman.

Picture: "The Haymakers." Dupre. Also "The Haymaker." Dupre.

Conversation: What we hope to do in vacation.

Reading to children: Re-read stories selected by the children.

NOTE. Where no picture is mentioned, pictures in the reader may be used.

SUGGESTIONS FOR DRILL.

"The correct form of a few of the incorrect expressions common to the class should be made the basis of oral drills."

It is impossible to indicate just what drills shall be taken each week, as the teacher must be guided by the needs of her class.

The play spirit can be utilized in making the drills interesting to the children. A few little plays for this purpose are here suggested.

To correct "I done it."

The teacher has two cards. One card has picture of a Katydid on it. The other card has no picture.

Teacher says, "This little grasshopper is called a Katydid, because she says 'Katydid.' This is how she says it, 'Katy did, she did, she did, she did, she didn't.' Now you can play you are Katydids. If I show you this card (showing Katydid picture), you must say 'Katy did it.' If I show you this one (showing the other card), you must say, 'Katy didn't,' and I shall try to catch all the Katydids I can. If you say the wrong words "you are caught.'"

Teacher then calls upon different rows of children to stand, and *quickly* shows each child a card.

It takes but a few minutes to go "round the class;" the children enjoy the lesson and hear the correct expression many times without being wearied.

SPELLING.

"At least 150 familiar words selected from the pupils' vocabulary and from the class readers.

"Frequent exercises to train the pupils to spell words having a common phonic element; at least one such series a week should be taught in this grade."

See suggestions for teaching spelling in the Course of Study.

The 150 words to be selected from the pupils' vocabulary and from the class reader, will, of course, be different in different schools.

To correct the use of "have wrote" for "have written."

The teacher says: "Write the name of something you would like to have," or

"Write the name of something you would like to give mother," or

"Write the name of a color," or

"Write the name of an animal," or

"Write a word that begins with 'b,' or

"Write a word that sounds like 'bell,' etc.

After the children have written the word, the teacher calls upon them, in turn, to tell what they have written. The first child says: "I have written ball." The second child: "I have written horse," etc.

To correct the use of "brung" for "brought."

Teacher calls upon a row of children to stand. The children, in turn, tell of something they have brought to school. The first child says, "I brought my books to school." The second child must be ready *immediately* to say, "I brought my handkerchief to school." Of course, the children name *any* object they have brought. If any child hesitates, he is "out."

To correct the use of "catched" for "caught" and "chucked" for "threw."

Children stand in two lines facing each other. First child throws a ball to the child opposite, saying, "I threw the ball." The opposite child must say, "I caught it," or "I dropped it," as the case may be, and immediately throw it to the second girl in the first line, saying, "I threw the ball." The second girl must then catch it and say, "I caught it." And so on until every child has had a turn.

To save time in forming lines for this play the teacher can call upon the first and fourth rows to stand and face each other, then the second and fifth, and the third and sixth rows take turns.

"SERIES" SPELLING.

The form words in italics in each series are to be taught thoroughly, both for oral spelling and dictation.

FIRST WEEK.

At; bat; *cat; fat; hat; mat;* nat; pat; rat; sat; vat; flat; slat; spat; chat.

SECOND WEEK.

An; ban; *can;* Dan; *fan;* man; nan; *pan;* ran; tan; van; bran; clan; *plan;* span.

THIRD WEEK.

Am; dam; *ham;* ram; *Sam;* dram; cram; *slam; clam;* sham; tram; clamp; tramp; cramp.

FOURTH WEEK.

Cap; gap; hap; lap; map; *nap;* tap; *slap; clap;* flap; trap; chap; snap.

FIFTH WEEK.

Bad; dad; fad; *had; lad; mad;* pad; sad; clad; glad; shad.

SIXTH WEEK.

Bed; fed; led; *red;* Ted; wed; sped; sled; shed; Fred; *Ned.*

SEVENTH WEEK.

Ben; den; hen; *men; pen; ten; then; when;* bent; dent; pent; tent; mend.

EIGHTH WEEK.

In; bin; din; *fin;* gin; *pin;* sin; *tin;* win; spin; twin; *chin;* tint.

NINTH WEEK.

Dim; him; Jim; rim; vim; *trim;* prim; slim; skim; brim; *swim.*

TENTH WEEK.

Dip; hip; *lip;* nip; rip; tip; *sip;* whip; slip; snip; ship; chip; Jip; trip; *skip;* clip.

11TH WEEK.

Dish; fish; wish.

12TH WEEK.

Bow; *cow; how; now; plow;* prow; brow.

13TH WEEK.

Bun; fun; gun; nun; *run; sun;* spun; stun.

14TH WEEK.

But; cut; hut; nut; rut; shut.

15TH WEEK.

King; *ring; sing;* wing; *string; sting;* spring; bring.

16TH WEEK.

All; ball; call; fall; gall; hall; pall; tall; stall; wall.

17TH WEEK.

Bar; *car; far;* jar; mar; *tar; star;* spar.

18TH WEEK.

Oil; *boil; coil; toil;* foil; *soil; coin;* join.

Urn; turn; burn; spurn; bird; third.

Teach children to add the suffixes, ly, er, ing, to all words taught in spelling to which they can be added. For example:

Mother; motherly; father; fatherly; black; blacker; blacking.

Also to form the plural by adding s—apple, apples, and the like.

PENMANSHIP.

In Grades 1A and 1B children write on unruled paper with crayon or soft pencil. In grade 2A children learn to write with pen and ink on ruled paper.

Children learn to write all the small letters in grades 1A and 1B and all the capitals but G, D, H, K, Q, Z, V, U, Y, X. These are the new letters for Grade 2A.

FEBRUARY.

Movement drills begin every penmanship lesson. (Good movement exercises are given in the copy books.)

G: Goats can climb rocks. D: Dogs can eat bones. H: Horses eat hay, oats and corn. K: Kitty can catch mice.

The date from copy.

Children's names and addresses from copy.

MARCH AND APRIL.

Movement drills begin every penmanship lesson. As many children as possible write on the blackboard

V U Y Q Z X

Urban can fly a kite. Up it goes into the air.

Violets grow in the woods. Yellow violets peep from under the leaves.

Zip is my dog. Zip can swim. Quick, Zip, get the stick.

I can write X.

The date, children's names and addresses are written from copy.

MAY AND JUNE.

Movement drills.

Review letters taught.

Lessons giving special attention to the form of special letters.

Lessons giving special attention to the relative height of small letters, letters t and d, and the loop letters and capitals.

The date, from copy. Children's names and addresses with and without copy.

Types of Written Problems For 2A Grade.

BERTHA SAMENFELD.

FIRST MONTH.

Addition within the combinations taught 1-2-3-4 and 5 tables to $+\frac{8}{5}$.

1. I saw 12 birds on one bush, 13 birds on another and 25 birds on another bush. How many birds were on the three bushes?

2. Frank had 49 marbles in a box. He gave John 15 marbles out of his box. How many did he then have?

3. On one block in a certain street there are 14 flats; on the next block 12 flats; on the third block 15 flat-houses and on the fourth block 20 flats. How many flats on that street?

4. John's book cost 25 cents. His school-bag cost just as much as his book. How much money did John spend?

5. There were 24 cows in a field; 12 cows jumped over the fence. How many were then in the field?

6. A boy spent 3 cents for a pencil, 12 cents for a copybook, 2 cents for a pad, 15 cents for a pencil-box, and 10 cents for a pen-wiper. How much money did the boy spend?

7. If Mary has 14 cents and her sister has 27 cents, how much have they together?

8. Jack found 26 eggs in a nest. His mother used 3 eggs for a cake. How many had John then?

9. A man had a certain number of miles to travel. Find out how far he went if he travelled 11 miles the first day, 22 miles the second day, 11 miles the third day and 18 miles the fourth day.

SECOND MONTH.

Addition within the combinations taught 1, 2, 3, 4, 5 tables and $+\frac{6}{6}$.

1. Jack had a number of story books. He read 12 pages in one book, 13 pages in another book, 4 pages in another book and 24 pages in his other book. How many pages did Jack read in his books?

2. In a schoolroom, there were 15 boys and 29 girls. How many children were in the room?

3. A man sold 12 quarts of cream to one store, 14 quarts to another, and 36 quarts to another man. How many quarts did he sell in all?

4. I have four pails of milk. The first has 15 pints in it, the second pail has 13 pints in it, the third pail has 23 pints, and the fourth pail has only 3 pints. How many pints of milk have I?

5. Frank planted 24 lily bulbs; only 11 of them bloomed. How many bulbs did not bloom?

6. Mattie picked 28 quarts of blackberries. She sold 13 quarts. How many quarts did she have then?

7. A lady sold 18 goose eggs and 15 chicken eggs to a man. How many eggs did this lady sell?

THIRD MONTH.

Addition within the combinations taught 1, 2, 3, 4, 5, 6 tables and $+\frac{7}{7}$.

1. There were 4 soldiers marching in one line, 14 soldiers in the second line, 4 soldiers in the third line and 14 soldiers in the fourth line. How many soldiers were marching in all the lines?

2. On one spool there were 44 yards of ribbon. I cut off 12 yards. Now how many yards are on the spool?

3. In a box of crayons, there are 10 pieces of red, 17 sticks of green, 22 sticks of yellow and 4 pieces of blue. How many sticks of crayon in the box?

4. There are 19 desks in one room and 26 desks in another room. How many desks in the two rooms?

5. Thirty-nine children in a room; 25 went down to recess. How many stayed in the room?

6. A farmer put 14 quarts of white potatoes, 24 quarts of sweet potatoes, 13 quarts of apples and 3 quarts of onions into a basket. How many quarts did he measure into the basket?

7. A storekeeper had 17 red kites and 27 blue kites on a shelf. How many kites were in his store?

FOURTH MONTH.

Addition within the combinations taught. New combinations $+\frac{8}{7}+\frac{9}{7}+\frac{8}{8}$.

1. A fruit dealer had 37 pine-apples in his state and bought 18 more. How many pineapples did he have?

2. Agnes went to the store and bought 60 cents worth of sugar. She gave the man 75 cents. How much change did the man give her?

3. A boy carried a basket with eggs in it. There were 9 turkey's eggs, 14 duck's eggs, 23 hen's eggs. How many eggs were in the basket?

4. Our cow is tied to a stake with a rope 54 feet long; how much farther can she reach from her stake than another cow that is tied with a rope 22 feet long?

5. Sister Emma bought 18 yards of silk, 4 yards of lining,

14 yards of dress goods, 20 yards of ribbon. How many yards did she have in all?

6. John is 29 years old. His brother is 15 years old. How much older is John than his brother?

7. If Frank takes 26 minutes to shovel away snow from his door, and James takes 20 minutes to shovel snow from his door, how much sooner is James finished his work?

Fifth Month.

Addition within the combinations taught. New combination, $+\frac{9}{8}+\frac{9}{9}$.

1. In a school room there are 19 girls and 29 boys. How many children are in the room?

2. A party of five went fishing. One lady caught 12 fish, another caught 16 fish and the third only 3 fish; a man caught 22 fish and the captain 14 fish. How many fish did they catch that day?

3. Mr. Peck bought some tea for 75 cents, some sugar for 24 cents, coffee for 36 cents, and some molasses for 22 cents. How much did Mr. Peck pay the grocer?

4. Our school house is four stories high. If there are 18 classrooms on the first floor, 11 classrooms on the second floor, 23 classrooms on the third floor and 16 rooms on the fourth floor, how many classrooms in our school?

5. A farmer bought 95 barrels of apples. He sold 24 barrels. How many barrels has he still to sell?

6. A train went 48 miles the first day and 29 miles the second day. How far did the train go in the two days?

7. Nell sharpened 15 lead pencils. She had 49 in the box when she began to sharpen them. How many more has she to sharpen?

Arithmetic Problems in 2B.

By Minnie Igelheimer.

FIRST MONTH.

(*Addition.*)

1. Grace has 28 pictures and her sister has 35 pictures. If they paste them all in one book, how many pictures will they have in the book?

2. Willie had 37 marbles and he won 18. How many marbles has he now?

3. Bought a watch for $30 and a chain for $13. What did I pay for both?

4. Harry got a bank for his birthday. He put $.26 in it on Monday, $.14 on Tuesday, $.05 on Wednesday, and $.23 on Thursday. How much money has he so far?

5. In a box of paints there are 15 blue paints, 23 yellow paints, 6 red paints and 35 green paints. How many paints are in the box?

FIRST MONTH.

(*Subtraction.*)

1. A farmer had 48 turkeys; he killed 24 to send to the city for Thanksgiving. How many turkeys has he left?

2. Lillie had 57 jacks; she gave 23 of them to her cousin. How many jacks has she now?

3. There are 46 children in a class; 28 of them have gone down to recess. How many children are in the room?

4. Jack's father gave him $.50 for doing some work for him. Jack spent $.25 of the money for a ball. How much has he left?

5. There were 46 words on the board. Jennie rubbed off 18. How many words are still on the board?

SECOND MONTH.

(*Addition.*)

1. In an orchard there are 56 apple trees, 23 peach trees and 19 pear trees. How many trees are there in the orchard?

2. After spending $24 for a coat, Mrs. White had $9 left. How much money had she at first?

3. A grocer bought tea for $.33 a pound and sold it for $.08 a pound more. How much did he sell it for?

4. In a mixed class there are 27 girls and 35 boys. How many children are there in the class?

5. A bicyclist rode 45 miles one day and 36 miles the next day. How many miles did he ride altogether?

(*Subtraction.*)

1. Fannie had $.95 in her bank. She took out $.67 for Christ-

mas presents. She is going to buy a pencil box with the rest. What will she pay for the pencil box?

2. There are 63 red and blue pencils in a box; 18 of them are blue. How many are red?

3. There are 54 ink-wells in a room. The monitor has filled 37 of them. How many has she still to fill?

4. A lady had 43 balloons. She sold 38 of them and gave the rest to her boy. How many balloons did she give to him?

5. Harriet is 24 years old. Her brother is 5 years younger. How old is he?

THIRD MONTH.

(*Addition.*)

1. Mrs. Smith bought 54 yards of carpet for the parlor, and 18 yards for the dining-room. How many yards did she buy?

2. Elsie is 18 years old, and her father is 32 years older. How old is he?

3, After riding 64 miles in the train, they had 19 miles to go still. How far did they travel?

4. Forty-seven children had an example right; 9 children were incorrect. How many children are there in the class?

(*Subtraction*).

1. Grace is 15 years old and her grandfather is 63 years old. What is the difference in their ages?

2. Bought coffee for $.26 a pound and sold it for $.34. How much did I make on each pound?

3. A kite was up 53 feet and the wind pulled it down 27 feet. How high up was it?

4. I cut 36 yards of ribbon off of a piece 56 yards long. How much remains in the piece?

(*Multiplication*).

1. Lillie counted 31 stars. Her sister counted 3 x as many. How many did her sister count?

2. There are 42 apple trees in an orchard, and 4 x as many peach trees. How many peach trees are in the orchard?

3. Harry paid $.14 for his bat and twice as much for his ball. What did the ball cost?

4. How many hands have 83 children?

5. How many gloves in 51 pairs?

FOURTH MONTH.

(*Addition*).

1. Fred sharpened 47 pencils and had 18 still unsharpened. How many pencils had he?

2. Bought butter for $.21 a pound and made $.09 on each pound. What did I sell it for?

3. After losing 54 marbles, John had 19 left. How many marbles had he at first?

(*Subtraction.*)

1. In a mixed class there are 52 children; 36 of them are boys. How many girls are in the class?

2. There are 52 weeks in a year. If we go to school 40 weeks, how many weeks do we have vacation ?

3. Mr. Brown had 67 sheep; 19 of them died. How many sheep has he now ?

(*Multiplication*).

1. A man travelled 35 miles a day for 5 days. How many miles did he travel ?

2. Each floor in a house has 17 windows, and there are 4 floors. How many windows in the house ?

3. Willie sold 89 papers each week for three weeks. How many papers did he sell ?

(*Division.*)

1. I divided 84 cherries among 4 children. How many cherries did each child get ?

2. Mrs. Gray bought 3 pencil boxes for $.39. What did she pay for each ?

3. There are 86 trees in an orchard in 2 equal rows. How many trees in each row?

4. If 3 bicycles cost $90, what will 1 bicycle cost ?

FIFTH MONTH.

(*Addition.*)

1. Farmer Brown has 36 cows and his neighbor has 28 cows. If they put them together in one field, how many cows will be in the field?

2. Elsie counted 85 apples on a tree and 37 on the ground. How many apples were on the tree before any fell?

3. Paid $23 for a table and $99 for other furniture. What did my bill amount to?

(*Subtraction.*)

1. Grace saw a plant that cost $.98. She had only $.49. How much more did she need to buy the plant?

2. Bought groceries amounting to $.38. Gave the grocer a half-dollar. How much change did I receive?

3. Bought a piano $96. Lost $9 on it. What did I sell it for?

4. A watch and chain cost $74. The watch cost $50. What did the chain cost?

(*Multiplication.*)

1. Jennie writes 79 words a minute on a typewriter. How many words does she write in 5 minutes?

2. At $.48 a yard, what will 4 yards of ribbon cost?

3. A book-case has 3 shelves and each shelf contains 19 books. How many books in the book case?

4. There are 39 yards of thread on each spool. How many yards on 4 spools?

(*Division.*)

1. A man took in $284 in four days. How much did he take in each day?

2. There are 306 children in 5 rooms. How many children in each room?

3. Paid $270 for 3 diamond rings. What did each one cost?

3A and 3B Nature Study.

A Study of the Robin.

By M. W. Vandenberg, Fort Edward, New York.

The robin is a plump, robust fellow of medium size. The male has the head and tail dark brown or blackish, the back and wings about the color of weather-beaten wood, or of the bark of trees, with a slightly greenish shade. The breast is a buff orange-red, or even a deep chestnut-red. The throat is white, nearly concealed by black or blackish stripes and lines. The female has the head and tail but little darker than the back, and the breast is a buff-red. The beak of the male is yellow with a black tip; of the female, horn-yellow with the tip darker. The scaly part of the legs and feet of both is yellowish horn-gray. The voice and call notes, common to both, are clear, strong and distinct, and the air and demeanor of both is strong, dignified and full of self-respect. On the ground they run: they seldom walk or hop. They stand very erect but are not pompous. The flight is strong, rapid, and on a straight line, as is the flight of all thrushes. The robin is from 9½ to 10 inches long, the tail about 4 inches, the wing about 5, the spread from tip to tip 11 to 13 inches. The wings are rounded and large, the tail long and nearly even, or slightly rounded, with a white spot at the tip of the outer feathers on the outside web. The eyelids are white, with a small white spot in front and above the eye. The underparts, behind, are white. Occasionally the feathers of the breast have very narrow whitish or ashen margins, which give a grayish cast to the buff-red.

The food of the robin is soft, as is shown by the slender beak. Insects of all kinds, especially worms and the larvæ of moths and butterflies, are welcome diet. Earthworms are, however, his principal food through the greater part of the season. It is very interesting as well as amusing to watch a robin "out worming." He alights on the ground, stands very straight up, and looks sharply around for the cat or any other enemies. He then makes a short run, stops abruptly, stands motionless from two to five seconds, suddenly plunges his beak into the dirt, and quick as a flash snakes out an angleworm and drops it at his feet. Then he takes another careful survey for danger, and if the coast seems clear he proceeds to drub the worm into bits by pecking and thrashing it upon the ground. When this process is completed, as it is in a few seconds, he swallows the whole at one gulp and again repeats the hunt. Earthworms, Darwin tells us, often lie for hours in their burrows with the head just a short distance below the surface. Whether the robin sees the opening burrow, or hears the worm move, or smells it, no one but himself has thus far been able to determine. But he will often pounce upon a luckless worm in a place where it does not seem possible for his eyes to discover the game. And often, too, he stands intently, as if listening for a sound from a certain direction, and in a few seconds makes a sudden dive for a burrow. Sometimes he nabs a worm that is long and strong and that has a good hold upon its burrow. Then comes a most laughable struggle. Robin has hold of only the end of the worm, and to release his hold is to allow the worm to contract and withdraw into its burrow. And this it can do with surprising swiftness. So robin hangs to his grip, like a puppy to a stick, and pulls and yanks, bracing his feet and flapping his wings to add to his force. Finally the worm gives way, and sometimes so suddenly that robin goes sprawling backwards. He picks himself up with dignity, again looks on all sides, and then proceeds to pulverize and swallow his prey. He will eat ten to fifteen worms at a single meal, according to the size of the capture.

In late Summer and Fall, robins eat cherries and berries and wild grapes of all kinds. This love of fruit has given him a bad name. But he rarely eats the early dainties to excess, and he destroys so many insects and worms that feed upon fruits, grains and grass that people are coming to regard his occasional feeding upon cherries and berries as his legitimate right.

The song of the male is clear, strong and loud, of five or six ringing notes. But he seldom sings his song to the end. He begins loud and bold, sings two, three or four notes, stops abruptly, as if he had changed his mind, waits a few seconds, begins again, and as suddenly breaks off.

He is the first bird to sing in the early morning unless the little wood-pewee gets in a few, soft whistles before him. In the middle of the day he loves to sing from the tip-top of a tree, or the peak of a barn, or the top of a fence-post.

While a robin will give battle and vanquish a king-bird, a red-wing, or even a crow black-bird that is larger than himself, he is utterly panic-stricken by the appearance of a crow in proximity to his nest. This marauder, when he comes into robins' territory, inspires much the same feeling that a man-eating tiger arouses in a Hindoo village.

In nest building, Madam Robin is an adept.

Together the pair of robins seem first to study the locality. Having decided in a general way that it is desirable, they narrow down their choice to certain trees or buildings. First, one bird nestles down in a niche or corner, then steps aside and the other tries it. They peer carefully about on all sides to note the advantages and disadvantages.

They visit different parts of the same tree; they try the tree across the street or on the other side of the house or adjacent in an orchard. They sit about, and flit from tree to tree for half a day or more, to note the neighbors and neighborhood, the enemies and friends they will be likely to have, and the seclusion from intruders, combined with the protective presence of man.

In all this the female seems to be the ruling spirit.

Having selected the site, the female proceeds to gather from the neighborhood the most convenient coarse stems of grass, sometimes a bit of twine, or even a small piece of newspaper. Usually, however, only weather-beaten straws and stems are taken.

Three or four bluish-green, or greenish-blue eggs are laid; one each day, and then the setting begins. The eggs are rather pointed, a little over an inch long, without spot, speck or stain, and of a beautiful satin lustre. For nearly two weeks (12 to 14 days) they must be kept constantly warm day and night. Now comes the really useful work of the male. He approaches the nest, his mate hops off while he is yet a few yards away, and he takes her place. She goes forth to look for food, to stretch her tired legs, and exercise her wings. Usually each bird takes a bath at least once between morning and evening, and they change places on the nest three or four times each day.

When, at last, the little, blind, weak, sprawling chicks have picked through the shells that held them prisoners, the tender solicitude of the fond father and mother knows no bounds. The father is even more diligent in searching for food and bringing it to the nest than the mother. The daintiest bits of worms are brought after having been almost beaten to a pulp, and gently thrust into the gaping little beaks.

As winter approaches, the robins drift slowly southward, staying in some places, long after frosts have come, if there is still plenty of food. Sometimes they join other birds, as blue-birds, sparrows, in all-night flight southward.

It is pretty well determined from many circumstances that the same robins return year after year to the same locality. This shows how attached they become to a home place, and how well they learn all the guiding marks over a wide stretch of country. No doubt their keen sight helps them very much when flying high in the air, but they wander very far. Some begin to stop at the southern limit of snow. Others push on to Cuba, Mexico, and even Central America, though it is probable that most of them remain in the United States.

It is thought that the whole robin population move southward in the season of migration. Those who stop farthest north are those who went farthest north in spring. Those who go farthest south are those who stayed in the south during the summer. Robins are found from the Atlantic to the Pacific, and from the Gulf of Mexico far into the British dominions.

MODEL LESSONS ON THE ORIOLE.

The oriole appears early in May. Teacher and children should watch for its appearance. Even in the city reports may be secured by the teacher from the pupils on the different birds studied or observed.

The oriole is particularly attractive as an object of study because of its bright colors. It is almost indispensable that outdoor work should precede class-room study. In order to secure the best results the teacher should first be sure she knows what are the definite objects of the excursion. These are, to find out: the locality that the oriole frequents. What is the color? What song has it? How does it fly? How does it generally move? Size. This study may be carried on by comparison with the robin which has already been observed.

[The following questions and those on The Bean are along the lines advocated by the late Dr. Edward R. Shaw, of The University School of Pedagogy, and are, in fact, developments of his work in nature study.]

"What have you been most interested in as you watched the oriole?" "Why have you enjoyed watching him?" (Because he is so gay, pretty, etc.) "What are his colors?" (Explain how the colors gave the name, "Baltimore oriole.") Which bird do you think is more interesting, the oriole or the robin? Why? (The oriole is more graceful; is prettier.) "Have you ever seen the oriole's nest?" (Teacher has a number ready to show the class. Children note material and structure. The oriole's nest must first have been studied.) "What does the oriole use in building his nest?" (Twine, cloth, silk from milkweed stalk.)

Almost anything that he can weave into the nest. "Are all nests built in the same way?" (Some are longer than others, some have a larger opening.) You cannot teach the oriole without the nest. "Where does the oriole build his nest?" "How is the nest fastened to the tree ?" "Look at the branches to which the nest is fastened. On what part of the trees do they grow ?" (At the very ends of the branches.) "Can you think of any reason why the nest is placed far out at the ends of the branches ?" (Protection.) "Look at the robin's nest. Which do you think is prettier ? Which is neater ? Which shows better work ? More skill ?" "Which would you live in and why, if you were a bird ?" "How does the robin's nest differ in material ?" (The robin's nest is of grass, and clay is used to some extent. Yes, the oriole's nest is a much neater nest and the oriole is a much tidier bird than the robin.) "Why does not the robin need to be so careful where he builds his nest ?" (Because the robin is of a dull color and cannot be seen as easily as the oriole which has bright colors.) Notice the openings of the nest again. "What do you see ?" (Some are much smaller than others. Those with small tops are deeper also.) Imagine the mother bird in the nest. "In which of these nests would she be best protected ? Why ?" (The deep nest with the small top, because she will be so far down.) "Why should some orioles build one kind of nest and other orioles build some different kind of nest ?" [If the children fail to suggest, the teacher may state that where an oriole has many enemies the nest has a small opening in order to hide the mother bird while sitting. Let the children select the nest best adapted to hide the mother bird. At this point the teacher may tell the children about the habit of the birds in returning yearly to build in the same tree,]

"Can you tell the oriole's song when you hear it ? Is it as sweet as the robin's song ?" (Will you, will you, really, really, truly ?) (Mounted specimens, male and female, may now be shown.) "Compare the plumage of the male and female birds." (The female is not so bright as the male.) "Why ?" "What does the female do that the male does not have to do ?" (Sit on the eggs and hatch them. The duller plumage makes her not so easily seen and hence enemies cannot find her so readily. But the male oriole defends the nest if any danger comes near. He is as good a fighter as his red coat would go to show. He will attack a squirrel or a chipmunk if either troubles the little ones or the eggs. He flies at them and pecks at their eyes.) "You may describe the beak of the oriole. (Pliers.)" "Do you think he needs a strong beak ?" (If they have seen an oriole they will know whether he does.) "Does the oriole eat as the robin does ?" (No, the robin does not hold his food as the oriole does.) "What kind of food does the oriole like ?" (Yes, insects, as nearly all birds do. He is one of the best friends the farmer has, as he destroys slugs and all troublesome insects.) "What else do you think he likes ?"

(Fruit, berries, cherries, etc. The teacher may tell here that he is fond of the blossoms of fruit trees. But even if he does eat a few blossoms, he earns everything he eats.) "When do you first see the oriole?" (Early in May.) "Does any one know how long he remains here?" "Why does he not remain throughout the winter? How does he know when to go?" (He goes away because he cannot find the fruit he needs. He leaves by September 15.) "Does the robin leave so early?" "Which bird comes first in Spring?"

A SERIES OF MODEL LESSONS ON THE BEAN.

The lessons are carried on indoors. Material: Beans soaked in water over night. Beans in various stages of early growth and development. Beans that have been planted for two days, some four days, some with the first few leaves, some that have been growing in damp sawdust or in cotton and water. Also, some that have been planted and put in a dark place. The beans planted in sawdust should be planted much in advance of those planted in soil. It is best to begin planting February 24 or March 1, thus anticipating Spring. The planting is made early so that the study of the beans may be finished before the Spring trees demand attention. The child is also given opportunity to repeat the observation in Nature.

First Lesson: The dry bean is compared with the bean that has been planted two days. A specimen of each should be given to each pupil.

"Look at the beans and tell me any difference you see." (The soaked bean is larger. The dry bean is wrinkled. The soaked bean is smooth.) "Can any one tell me why this is so?" "Were the beans we soaked larger when we put them in the water?" (No, they were like these dry beans.) The beans should be measured in the glass. Measure the amount of water poured upon the beans. The beans should also be weighed before the water is poured on them and after the water is drained off. "Were the beans larger (soaked) before we put them in?" "You remember we measured the water put on the beans and put them to soak. Let us measure now. Is there as much water in the glass as there was before?" "Where has the rest gone?" (The beans have taken it up.) "Do you know now why the bean soaked is larger than before?" "Yes, it has taken up a great deal of water. You saw the soaked bean is smooth. Let us see why? Rub the soaked bean gently. What happens?" (It has a skin and the skin comes off.) "Do this with the dry bean. Can you pull its skin off?" (Here I should ask the teacher to scratch the skin of the dry bean.) "What do you think we might call this skin?" "Does it remind you of anything you wear?" (Something like a coat.) "We call it a coat. Can you think why the coat on the soaked bean is smooth?" (The inside soaked up water and became large, and this smoothed the wrinkles out.) What we next take up are the beans that have been planted in soil.

"Do they look like the dry beans?" "Why have they changed?" (The soil was wet and they have soaked up the water in the soil.) "Yes, and this is the beginning of the first change when the bean starts to grow. Open a soaked bean as carefully as you can, but do not break it apart. What do you see?" (I see something that looks like a little leaf.) "Break the two halves of the bean apart and look carefully at the little thing that holds the two parts together." "Go to the blackboard and draw carefully the little thing that holds the two parts together." "Go to the blackboard and draw carefully what you see." "Tell me what this pod looks like." (It looks like two small leaves and a short, little branch fastened to them.) "What do you think that little thing is?" "Yes, it is a little plant. You may tell me all the parts of the bean we have found thus far."

We then take up the beans as they come out of the earth; those that have sufficiently developed to show the open cotyledons, Bring out the growing beans that have been kept in a dark place. "Do you remember the beans we soaked and what we found in them?" "Tell me what you see before you take these up?" (The pupil tells you some are backing up out of the ground.) "Do you see anything that looks like what we had before?" (I see something that looks like the halves of the bean.) "Look at these that have been growing longer. What has become of the two halves?" They look something like leaves.) "Yes, and we call them seed-leaves. Now let us see whether the bean that is backing out of the earth is changed in anyway. Remember the soaked beans and tell me if this looks like those did." (Yes, it has burst off its coat. The two halves are opening. There is a root beginning to grow. There is a little plant inside, like that of the soaked bean.) "Let us pull up one of the larger plants. How has the plant changed?" (Now the leaves are showing between the two halves and the root is longer. It has little roots growing out from it.) "Do you remember that we planted some beans at the same time that we planted these beans that have grown to be these larger plants and we put them in a dark place? Let us now bring them out and look at them. How do they differ from these that were planted not so long ago?" (They are not green. They do not look strong, etc.) "Tell me now what these plants have had that those which grew in the dark place did not have?" (The beans in the dark place did not get light.) "What else?" (They did not get sunshine.) "Can you think of anything else they did not get?" (They did not get good air.) "If we wish to have strong plants what must we give them?" (Light, sunshine, air.) The day before the teacher has run a knife down and cut off the roots so as to have one or two plants with the roots cut off. "Look at this plant that has died. Pull it up."

"What is wrong with it?" (It has no roots.) "Will any plant die if its roots are cut off?" "Let us see whether we can find out anything more about the use the plant's roots have. Look at these in the damp sawdust. Do you think they are well grown? They are planted twice as long as are these in the earth. Why do you think they are not larger?" (They have had only water to live on; the others have had soil as well.) "The plant gets not only water from the earth but food to make it grow. What part of the plant is in the earth?" (Roots.) "The roots take up water and food from the earth. Think now of the different plants we have seen; those that grew in the dark; those in the damp sawdust, those in the good earth, and tell me all the things a bean plant needs in order to grow well." (Light, sunshine, air, water, good earth.)

A comparison may be made between the bean growing in the water when its growth is ended, and the bean that has grown the same length of time in the earth. "What has been feeding this bean plant growing in the earth?" "What has been feeding this one growing in the water?" "If the water gave it sufficient food, why did it stop growing?" "Let us look at the plant carefully and compare the seed leaves of the plant that has grown in the water with those of this plant." (The former are dried up and withered.) "Yes, and it is upon the seed-leaves that the bean has been feeding as it grew in the water. When it had taken all the food from the seed-leaves, it could no longer live and so growth stopped." The bean plant should be kept in the school room and its entire growth noted. If cared for, it will blossom and even give fruit, and thus the pupil may come to learn its life history.

THE EARTH WORM.

The study of the earth worm is to be carried on from two points of view: first, that of the observation of the animal, its appearance and its habits; second, that of its place in the marvelous economy of nature. This animal furnishes a splendid object lesson in the adaptability of structure to work. Several earth worms should be kept in water in a glass dish. Undirected observation should be permitted for a few days. Interest is aroused by utilizing the instinct of curiosity. All observation should begin with general features. For example, the general appearance, the size, the color, the shape, are first spoken of. Children will speak of the segments, and, if they are allowed close study of the animal, will notice the slime which covers the skin.

Motion: The bristles on the segment and the peculiar shape of the animal will account for this. They must go through the soil in search of food. The children will explain each of the wonderful ways by which they are fitted to do this. The exact method of motion may be described in detail. First, the head is forced between the particles of earth; then the muscles of the body contract, and the rear portion of the body is drawn forward. The head of the worm is in this way made larger and the opening already there is widened. To get purchase for this muscular contraction, the animal fastens itself by the bristles which come from each segment and all of which point backwards.

Worms are more active at night than during the day. They prefer damp places. They usually rest near the surface so as to get the purer air, and any good rain storm is sure to bring out great numbers of them.

Through the circular opening called a mouth the worm takes in soil, and after extracting from it all the vegetable matter which is in it, throws off what is left in little heaps called worm casts. There are infinite numbers of small burrows under ground, which keep air for the worms when under ground.

In general, take up the fact that the soil is made porous around the roots, and thus air and water are admitted to act freely on the plant.

The History of 4A.

AMY TEVEN, P. S. 188, Manhattan.

AS teachers become year after year better fitted for their work, education takes on a directness that is in marked contrast to their earlier blind groping, their desperate grasping after any and every method, in the hope that success may by chance crown their efforts.

Let us here, then, attempt a straightforward statement of the general object of our work in 4A History. Briefly, it is to give the child such knowledge in History as shall tend to make him a good citizen. For many of the children it is the only training they will ever get with that end in view.

No teacher can attain this object unless she presents her material with dramatic vividness. Fortunately this is an art that can be cultivated. Keen appreciation of the possibilities of the story, enthusiastic desire to accomplish the end toward which we are working, a total lack of self-consciousness, and a little of that love, sym. pathy and understanding of the child which marks the true teacher —these are the soundest working bases. With them the teacher need not fear for her success as a dramatic story-teller.

However much teachers may differ in details, all will agree that the more important purposes of our work are, to arouse and direct the reasoning faculties of the child, to imbue him with patriotism, to spur his imagination, and last, but not least, to instil a broad and lasting interest which will ensure a quickened desire to learn the history of his own country, should he continue his course through school. This will be of unquestioned service if he should be compelled to discontinue his studies in order to assist in supporting his family, as so many of our children must do. In such a case, his history lessons in 4A will be utilized as a foundation for real progress.

Then keeping in mind the crying need of our children on the East side for an enlargement of their vocabularies, for free oral expression, no lesson should be considered completed until the pupils have been encouraged to express their opinions of the personages who have appeared in the lesson—to describe minutely their appearance, their dress, to expatiate upon their qualities as developed in the story, to seek a moral, to point out cause and effect

Most children possess vivid imaginations and an unfathomable appetite for stories of all kinds. In 4A, with little trouble, these can be directed toward the legitimate channel of historical tales.

It is extremely advisable at this age. Too many of us can testify to the highly-colored stories we find our boys devouring; stories whose heroes possess questionable morals, and which, on the whole, are certainly not calculated to give our boys a faithful portrayal of the world or to develop a spirit which will be content with such uneventful lives as most of them are destined to live.

The lesson of patriotism cannot be too vividly impressed upon the minds of such children. In no other history are more instances of sufferings nobly borne, more heroic deeds, more examples of self-sacrifice.

Let us remember that the stories impressed upon the children in school are repeated by them at home, and that thus are we enabled, not only to counteract the unpatriotic critical attitude which is the pervading influence there—not only is it possible to foster patriotism in the child, but we are given the opportunity to dispel the ignorance of the parents through the children, since they are too busy earning bread by hard manual labor to make any attempt to cultivate knowledge of the city wherein they dwell.

We have 135 minutes a week assigned for geography and history. It is advisable to divide this into two geography periods of 40 minutes each and two history periods—a long one of 40 minutes and a short one of 15 minutes. The long period can be devoted to the lesson proper. The short period on the following day, to ascertaining its effectiveness. Have the children comment on the lesson, reproduce orally, if a story, recite from memory otherwise—in brief, let this period be given to work by the children.

A plan which I carried out with good results last term was to use 10 minutes of my study period the day before in some few remarks on the coming history lesson. As most of my boys belonged to the library, they were encouraged to look for any books on the subject. They might find any facts they thought would interest the class. These they reproduced in a paragraph which was placed on my desk the next morning. Their judgment was used in the selection, and it was an exercise in English. When the paper was neat and clean, the writing good, the facts well chosen and the English fair, the boy earned a corresponding number of credit marks which helped to place him on the Roll of Honor. This may not be the highest motive the children could have had, but it stimulated their interest, it kept the subject constantly before their minds, and on the day of the lesson they had the subject-matter fixed in their memory in a way that would have been impossible except by the mechanical method of repetition which kills interest. And though the means may not have been ideal, good results were undeniably obtained.

FIRST MONTH.

Lessons I–II—The Indians.

Population of the country east of the Mississippi. New York State and vicinity settled by the Iroquois. Their characteristics. Appearance. How they lived. Indian Women. Their work. Government. Religion and character. See "Leading Facts in American History." Montgomery.

Lesson III—Henry Hudson.

English sea-captain employed by Holland. In 1609 crossed Atlantic in the Half-Moon. Trying to find a water-passage to India and China by way of America. Entered New York Bay. Discovered the Hudson. Sailed up river to present site of Albany. River too shallow. Turned back. Traded with friendly Indians along shores. Sailed back to Holland with account of valuable fur trade and its possibilities. Following year Dutch sent six ships to begin trade with Indians.

Lesson IV—Settlement of New York.

In 1614 Holland took possession of country about Hudson, called it New Netherlands. Built fort on Manhattan—fort on present site of Albany. Made treaty with Indians. Manhattan called New Amsterdam. A stone warehouse and some log huts built. In Holland a company formed—Dutch West India Company. Received grant of New Netherlands. 1625 three ships and 100 head cattle sent from Holland. Now a small colony. Patroon system. Peter Minuit sent to govern colony.

SECOND MONTH.

Lesson I. First Dutch Governor.

Peter Minuit, a kind man of determination and great energy, proved a good governor. Purchased Manhattan Island for $24 in trinkets; friendly with red men, visited them in wigwams. They supplied him with game. Built new warehouse for company's goods. Cabins built along East River. Store opened. Grain mill. During six years New Amsterdam prospered. Man-a-ha-ta place of the whirlpool (Hell Gate).

Lesson II. Second Dutch Governor.

Walter Van Twiller; remarkable personal appearance (Irving's description in Knickerbocker's History of New York). Brought from Holland first clergyman and schoolmaster, built houses of brick and a wooden church. Trouble with Indians. Chief killed for unwitting robbery. Settlers attacked. 32 killed. Landholders petitioned company for new governor. Van Twiller recalled. Not successful as ruler. Why?

Lesson III. Third Dutch Governor.

William Kieft; least successful because of bad temper, and industrious and temperate in habits. Treated Indians cruelly, constant warfare the result. He also taxed settlers without consent. Colonists asked for new governor. Kieft recalled and Stuyvesant sent as fourth Dutch governor in 1647.

Lesson IV. Last Dutch Governor.

Peter Stuyvesant had gained fame and honor in wars, welcomed as a hero; hot-tempered and headstrong, honest and fearless, determined to improve the colony. A good ruler. 1653 New Amsterdam was made a city, palisades built along line of Wall street, from North to East Rivers. Northern line of city, city wall. Hence Wall street. Population of city mixed. Dutch, French, English. Laws published in three languages, City surveyed. 17 streets mapped out. 120 houses and 1,000 inhabitants; many were negro slaves.

THIRD MONTH.

Lesson I. Coming of the English.

Dutch colony now very prosperous. England saw its value. Wished to gain it. Claimed possession on strength of Cabot's explorations. King gave grant of land to Duke of York, his brother. England and Holland at peace. Very wrong to try to steal Dutch colony. York fitted up war vessels. 1664 English ships appeared in harbor. Demanded surrender of city. Stuyvesant refused. Settlers would not uphold him. Compelled to yield. New Netherlands changed to New York. New Amsterdam called Town of New York.

Lesson II. Peter Stuyvesant.

Born in Holland in 1602. Had lost a leg in one of the wars. Wore a wooden leg with silver bands. Sometimes called "Old Silverleg." Also known as "Peter the Stiff-necked," because of strict rule of Dutch colony. Governed 17 years. Did well for colony; found it in ruins; Stuyvesant an earnest worker. Built up the city. Population had fallen from 3,000 to 1,000. Made a number of necessary laws. Severe. Had a white house on Whitehall street. Country house called Great Bouverie. Lane passing it was Bouwerie Lane. Holland sent for Stuyvesant. Wished to blame him for surrender of city. Proved himself in the right. Came back to farm. His orchards and gardens finest in Manhattan. One of his pear trees 200 years at Thirteenth street and Third avenue. Died in 1672, 80 years. Buried in church on site of St. Marks'. Tablet from grave built in eastern wall of St. Marks'.

Lessons III and IV. Colonial Days in New Amsterdam.

Few settlers very rich. None very poor. Principal occupations fur-trading and farming. Every family owned cow, fed in common pasture. Farmers led happy life. Simple food. Healthy appetite. Bought little at stores. Raised own food. Sheep's wool woven by wives into cloth. Few idle days. Amusements. Skating and sleighing parties, husking bees, military drills. This was life on the farms.

City life simple. Rose and retired with birds. Houses brick. Huge knockers, polished daily. Dutch women fine housewives. Floors bare, sprinkled with sand. Tin dishes like mirrors. People traveled seldom. When necessary preferred sail boats because of poor roads. Once a week clumsy stage coach from New York to Philadelphia. Wealthy townsmen used their own coaches, poor people had carts for short distances. Made their own tools and furniture. Few letters written. $25 for one letter. Very hospitable. Entertained even strangers as welcome guests. Strict church-goers. Laws strict. Stocks. Pillory prison. Most colonists could read and write. To Dutch we owe Santa Claus, Easter eggs, New Year's cookies. Home life social. Dancing, sleighing and skating parties in winter. New Amsterdam odd city in those days. A little Dutch city in the New World. Many little wooden houses. Gabled roofs. Inside immense fire places surrounded by pictured tiles. Many tales told on winter nights around blazing fires. Story of Henry Hudson and the ninepins.

FOURTH MONTH.

Lessons I, II and III. Historic Sites.

Battery. Southern end of Manhattan Island. Now park; used as battery in times of Dutch.

Bowling Green, park near Battery. South of Bowling Green is site of Fort Amsterdam built in 1626 (now new Custom House). Green used by children for play ground during occupation of fort. In times of the English was rented to gentlemen for bowling. Hence its name. A bronze statue of De Peyster, a Dutch mayor in 1691.

Old Federal Hall. Wall and Broad streets. Site of Sub-Treasury Building. Place where Washington took oath of office. City Hall of that time. Bronze statue of Washington on steps to entrance.

Fraunce's Tavern. Pearl and Broad streets. (One of the oldest buildings in the city. Altered now. Taverns popular meeting places for men of note.) Here Washington bade farewell to officers of the Army after Revolutionary War.

Fort Washington. West, about 181st street, on Washington Heights. Opposite on Jersey shore is Fort Lee.

Fort Clinton. Built in war of 1812. 106th street and 5th avenue. Central Park. On hill beyond pond. Flagstaff on top. Old cannons.

Block House. 110th street and Central Park (east.) In 1812 guarded road from east to west of the island.

Fort George. 183d street and Amsterdam avenue, on a hill. Built in Revolutionary War.

Trinity Church, (first Trinity built in 1691), on Broadway, opposite Wall street. Many famous Americans buried there.

64th Street Arsenal. Arsenal for militia. Once northern end of city.

Lesson IV.—Monuments of Washington; location, etc.

Fifth Month.

Lessons I and II.—Statue of Liberty.

Presented by French to show good feeling. Copper. 151 feet high. On Bedloe's Island. Liberty Island in New York Bay. Set up in 1886.

Peter Stuyvesant and Henry Hudson. Of bronze in niches of Exchange Court Building, Broadway and Exchange Place.

Obelisk. In Central Park, near Museum of Art. Given in 1877 by Egypt, single shaft of granite. Gilded top. Covered with hieroglyphics. Cleopatra's Needle.

Daniel Webster (civil) statesman. Statue in Central Park (west entrance), near 72d street.

Benjamin Franklin, printer. Lightning and electricity. Printing House Square. All big newspaper buildings are here.

Horace Greeley (civil) printer. In front of Tribune Building. Great anti-slavery man. Printing House Square.

Lafayette. Union Square.

Lincoln. Union Square.

Peter Cooper. South side fronting Cooper Institute.

Nathan Hale. City Hall Park.

Lesson III.

Robert Fulton. Short biography. First steamboat.

Lesson IV.

Peter Cooper. Short biography. Cooper Institute.

Geography in 4B.

By Henry Davidoff, P. S. 16, Manhattan.

[**Note:** The following article completes the outline for the geography work of 4B, begun in the last number of the Monographs.—*Editor.*]

North America (continued).

"The people; distribution of population."

1. *The physical and historical reasons why the density of population is greatest along the Atlantic coast:* (a) The eastern part of North America nearer to Europe than the western part. (b) America having been settled by Europeans, the oldest towns and cities are to be found along the Atlantic coast. (c) The greater number of navigable rivers flowing into the Atlantic, and hence the better facilities for communication with the interior.

2. The distribution of the population (especially in the United States) indicated indirectly by tracing a line connecting the points which have been at different times the *center* of population. [This line, starting at the Atlantic coast in 1780, moves westward, till, for the year 1900, the point which represents the center of population, would fall somewhere within the region of southern Indiana.]

"A few distinguishing characteristics, such as language, food, habits and dress of people of various occupations and nationalities."

(a) *Language.* Point out the historical reasons accounting for the use of the English language in Canada and in the United States, and the prevalence of Spanish in the other countries of the Western Hemisphere. [Within the U. S. itself there are sections, having colonies of foreigners or descendants of foreigners; and this tends to change the language or to affect the dialect of English spoken there.]

(b) *Food.* Point out that the food of a place is almost absolutely conditioned by the agricultural products of the region in which the place lies. Apply this to the topic already taken up in connection with the heat belts of North America. [In the U. S. we find the characteristic food-stuff to consist of wheat and the flesh of domestic cattle; in Mexico and Central America, the greater heat and more luxuriant vegetation account for the slighter use of meat and grains as food, and the relatively greater use of fruit and spices (of the highly spiced dishes of Mexico and South America in general); in the extreme north, among the Eskimos, the supply of food is wholly dependent upon the animal life, since there is no plant life that can serve as food. Fatty substances, such as oil and blubber of animals like the seal, are eaten as a means of supplying the body with warmth to overcome the extreme cold of the Arctic regions.]

(c) *Habits and dress.* To be taken up by means of pictorial illustrations rather than by verbal descriptions. [A useful help in this connection can be found in the series of geographical readers edited by Coe or Carpenter.]

(d) *Occupations and nationalities.* Here the topic is too broad for any but outline treatment, and the best method seems to lie in selecting one or two characteristic examples rather than in attempting to cover the whole field. Thus a description of a bull fight in Mexico, or an account of life on a cattle-ranch in Texas, is much more suggestive than a mere list of the various occupations of the people living in North America. An attempt, however, should be made to associate the localities already taken up with some characteristic employment or occupation which depends on the natural resources of the region in which the given locality lies.

"Unfavorable effect of extremes of temperature on occupation, industries and products."

(This topic has already been touched upon in a general way, when the location of North America in the heat belts was taken up.) Here, there should be an attempt at showing the intimate connection between the *climate* of a place and the *occupations, etc.*, of its inhabitants. The relation should be treated as one of cause and effect. With this in mind, the following outline is suggested:

(A) Unfavorable effect of extremes of temperature on *occupations* —lack of energy and listlessness caused by the heat of the southern countries—physical impossibility of doing anything under such conditions as exist in the far north for the greater part of the year. (Cf. the great number of beggars in Mexico and Central America, as well as the custom of having the "*afternoon siesta*" in most parts of the country.)

(B) Unfavorable effect on *industries*—this follows naturally from the previous remarks—trade, manufacture, commerce, both foreign and domestic, suffer in proportion to the difficulties that must be overcome before steady and productive occupations are possible.

(C) Unfavorable effect on *products.* The products of a place are obviously directly dependent upon the climate, and extremes of heat or cold are equally destructive of extensive vegetation.

(This whole topic should be illustrated by reference to other places in Europe and Asia, where examples of the unfavorable effect of extremes of temperature, are more obvious.)

" Industries associated with the products of animals and vegetable life and of mines and quarries."

The location of the mining, agricultural and grazing regions should be reviewed (of previous topic) with special reference to the mining region of western United States, the agricultural region of the Mississippi Valley and the grazing areas of Texas. The industries associated with the products of these regions can be taken up in accordance with the following outline:

(*A*) *Mining Industries.*

1. *Coal and Iron* in western Pennsylvania—factories for the manufacture of steel and machinery, etc., located in this region. (Recent advance in these industries to be indicated by reference to the exportation of American steel in the form of rails, locomotives, typewriters, etc.

2. *Copper.* Location in Montana, Minnesota, etc.—industries connected with the refining of the metal and the manufacture of utensils, etc. (Note the fact that this metal is used more than any other as one of the ingredients of an alloy.)

3. *Gold and Silver.* Location in the central Rocky Mountain region and in Alaska. Industries confined to the mining and refining of the metal. (Up to within a few years industries associated with the working of these metals into fine jewelry and ornaments were to be found almost entirely in Europe. Even to-day most of the fine goldsmith's products to be found here are imported.)

4. *Petroleum.* Located in Pennsylvania, Ohio and Texas. Important industries connected with the by-products obtained from petroleum refining. For example, we have the manufacture of aniline paints, naphtha, soaps, candles, etc., as direct consequences of oil refining.

(*B*) *Agricultural Industries.*

Distributed over a very wide area in U. S. (Note the fact that the United States and North America in general are essentially agricultural regions. Thus, there are about 12 million people in the U. S. occupied with farming or other agricultural industries.) Include here such industries as the refining of sugar from the sugar cane, the packing of cotton, the preparation of tobacco, etc. [In this connection it may be interesting to speak of the modern methods and implements of farming, such as the patent reaping machine, the threshing machine and the scientific process of fertilization, etc.]

(*C*) *Industries Connected with Cattle Raising.*

Located principally in the region of the Rio Grande. Description of a typical cattle ranch in Texas—stories of cowboy life. (The industries connected with the preparation of meat, etc., for the market are best seen in the stock-yards of Chicago. All the meat packing and meat canning for the U. S., as well as a great deal for exportation, is to be seen here on a very large scale.)

Take up under this head such topics as *leather tanning*, *sheep raising* (especially in southern California), and other industries dependent upon cattle raising.

(*D*).

Another very important industry to be included here is the fruit-raising industry, distributed over a large area of the temperate and torrid zone. This industry is most important in places like the West Indies and in some sections of southern U. S., such as Florida and California.

(*E*) *Quarrying Industries.*

Located in the southern section of New England and in some parts of the Middle Atlantic and Central States. The quarries of most importance are the marble and granite quarries (situated for the most part in Connecticut and New York) which supply most of the building material for the eastern section of U. S.

"Facilities for transportation and commerce by the great inland lake and river routes and coastwise lines."

Importance of transportation facilities in countries like the United States and Canada, where the areas of cultivated lands are large and the characters of the different sections are so diverse from a physical point of view. (This topic to deal with water transportation.)

Trace on outline map a line showing the course of a ship going from Duluth, Minn., (at the extreme western point of Lake Superior) to Buffalo, and show that by keeping close to the American side some of the most important cities of the north Central States are touched. Emphasize the fact that the growth of these cities in importance and in population is due to their situation on the lakes. (The cities to be mentioned are these: *Duluth, Minn.*, *Milwaukee*, *Chicago*, *Detroit*, *Cleveland* and *Buffalo*.)' The importance of Buffalo as a point on this water route is doubled, owing to the fact that the Erie Canal at this point connects the lake lines with the Atlantic Ocean, via the Hudson River.

The Lake Ontario and St. Lawrence River lines should be noticed in this connection, as offering the means of transportation from Canada to the Atlantic and to England, via the Gulf of St. Lawrence, etc. Of greater importance for the eastern sections of the United States, Canada, Mexico and the West Indies are the Atlantic coastwise lines. Here, also, it can be readily shown that the points touched upon by these steamship lines are the larger cities, having good harbors, and that the commercial growth of a city and the number of transportation lines that are to be found in the city are in direct ratio. (The reason for this is that, in a sense, these two facts are conditions of each other.) The names and courses of the most important coastwise lines should be given, especially those having piers in New York; e. g., the Old Dominion line, the New York and Havana line, etc., etc. On the western coast of North America there are no coastwise lines of great importance, unless we except the steamer service between San Francisco, Portland, Seattle and points in Alaska. (The physical reasons for the lack of commerce and the absence of harbors on the western coast of North America have been mentioned in a previous topic.)

"*Great transcontinental railroads and their influence on the peopling and development of the continent.*"

This topic to be introduced by reference to the civilizing effect of inventions which make inter-communication easier (e. g.: the importance of railroads in a large country like ours where the various physical differences would tend to cause sectional and dialectic variations unless there be constant intercourse).

The great service of the transcontinental roads in (1) enabling the population of the overcrowded east to move westward (compare present conditions with the means of travel in '49); and in (2) developing the region west of the Mississippi as an agricultural area by affording the means of transporting the products to the eastern and European markets. Another influence of the transcontinental railroad on the development of the continent is to be seen in the rapid growth of some of the western cities which are situated on the line of the larger railroads and which have thus become centers of distribution for the products of the great Central Plain.

The story of the building of the great transcontinental railroad is instructive as showing the physical difficulties that had to be overcome and in this way showing the change in the character of the land through which the railroad passes. The points to be noticed in this narrative are these: (1) The fact that after the line had been surveyed and the plans completed, it was decided to begin at both extremities at once and have the two sections meet; (2) under ordinary conditions the point where this meeting would take place should have been somewhere midway between the Atlantic and Pacific; (3) the actual meeting point was hundreds of miles west of this theoretic point, almost in the heart of the Rocky Mountain region; (4) the reason for this evidently lies in the fact that the section from the Atlantic coast to the beginning of the great Pacific highland is comparatively level, while the rest of the distance is very mountainous and irregular; (5) finally, this points to the greater necessity for tunnelling, etc., in the western section of the railroad, and thus to the greater expense and slower progress in the building of the road.

"*Countries and comparative importance.*"

This topic needs no comment beyond the remark that a good device for fixing the position of the countries on the map is to be found in bounding the countries on all sides, and in noticing the countries in other parts of the world that are on the same parallels of latitude. (Cf. previous topic).

"*Great manufacturing and commercial centres.*"

Commerce and industry have already been touched upon several times in connection with some of the earlier topics. Here, the aim should be to fix definitely in the mind of the pupil the names and locations of four or five of the most important centres of industry and commerce, together with brief indications as to the characteristic occupation of the people living in these centres. (Thus, Chicago, after it has been located, should be associated in the minds of the pupils with its meat industry and with the great railroads that radiate from it as a commercial centre. In the same way the mining and manufacturing region around Pittsburgh, the shipping district surrounding New York, the cotton and sugar transportation from New Orleans, the leather industries in northern Massachusetts around Lynn and Lowell, the mining centre, Denver, etc., etc., should be taken up.)

"*The capital and the largest city of each country.*"

This takes up nothing more than the memorizing of the names and location of two cities in each country. The test should, therefore, be accuracy and exactness in identifying these places.

"*Names and location of the Atlantic coast States as a basis for the history work in 5A.*"

The comment on the topic immediately preceding this applies with equal force here. The states should be taken up in the order of their geographical proximity (beginning with Maine) rather than in the order in which they were first settled. (It is advisable, however, to have each of the thirteen original states associated in the minds of the pupils with some characteristic historical event or locality.)

SOUTH AMERICA.

"*Studied in comparison with North America and after the same general plan.*"

The general plan to be followed has been indicated as fully as the topics already discussed in connection with North America would allow. These topics, taken up in the same order and as *briefly* as possible, offer the best scheme for the study of South America in comparison with North America. The difference between the study of North America and that of South America should consist for the most part in the placing of greater emphasis upon the physical, as compared with the political, features of South American geography.

"*Marked points of resemblance and difference.*"

The general surface division of North America into Eastern and Western Highlands, with a great Central Plain between them, is to be found in South America. (This surface structure, paralleled in both grand divisions, leads to many other physical resemblances, which should be pointed out when taking up the rivers, mountains, climate, rainfall and other topics in connection with South America. The more detailed study of North America, already taken up, should be used as a collected fund of facts, to which everything in the study of South America should be referred whenever possible. In this way the little time left for the study of the less important grand division can be made of most service.) The next two topics are in line with the general topic of resemblance and difference between the two grand divisions, and what has been said here applies with equal force there.

"*Coasts of both continents compared.*"

The geologic structure of the coast of South America being different (especially on the Atlantic side) from that of North America, it naturally follows that the number of indentations, and thus, the number of harbors is greater, where the coast offers less resistance to the waves of the ocean as they dash against it. (Cf. previous topic.) South America's coast has practically the same structure on its eastern as on its western side—a structure which is also like that of the western coast of North America. It goes therefore without saying that, from a commercial point of view, the coast of South America is of little importance as compared with the Atlantic coast of North America. (The few places on the South American coast that have good harbors are also the points where important cities are situated. This is the case with Rio Janeiro, Santiago and other cities.)

"*Brief study of a cross-section.*"

Before taking up the study of a cross-section, it is advisable to locate the six most important plateaus and plains that extend over the greater part of the continent. These are: (1) the Plateau of the Andes; (2) Plateau of Brazil; (3) Plateau of Guiana; (4) the

Llanos; (5) the Selvas; and (6) the Pampas. [An aid in locating these places is to be found in representing South America as a right-angled triangle with the hypothenuse as the Pacific coast, and by locating the Plateaus of Brazil and Guiana along the other sides of the triangle a fairly correct idea of the positions of the places mentioned will be obtained.]

In the cross-section itself it would be most suggestive of comparison with the cross-section of North America already studied to take up the line across the continent of South America, coinciding with the 10th parallel of latitude. This line would show: (1) the very narrow Atlantic coast plain; (2) the short range of mountains (Serro Espinhaco) in the Brazilian Plateau; (3) the Plateau of Brazil; (4) the Great Central Plain (that part of it lying between the Selvas and the Pampas); (5) the Plateau of the Andes; and (6) the Andes Mountains, situated close to the Pacific coast (thus leaving almost no place for a Pacific Coast Plain).

"Comparison of plant and animal life with that of North America; comparison of the agricultural, grazing, lumbering, mining and manufacturing interests; of the facilities and routes of travel and transportation; of the occupation and enterprise of the people as affected by climate."

(For several reasons it has been thought best to collect in one topic all the points indicated here, and to let them stand without further comment. In the first place, the comparisons to be made have already been implied when the same topics were taken up in connection with North America. Secondly, for the brief treatment of these points as referring to South America, the topics as they stand are to a large extent self-explanatory. Finally, the little time that is left for the study of South America in the 4B grade does not permit elaboration in any direction. The aim should be, for the most part, exactness and clearly defined knowledge of a few simple facts of South American geography, rather than vague conceptions of the physical and commercial conditions existing there.)

"*Brief study of three leading countries, their capitals and commercial centres.*"

In selecting three of the South American countries, the choice, with the exception of Brazil, should be made according to the ease with which the countries selected can be correlated with the current events of the United States, *i. e.*, with the political and commercial relations which those countries have with our own. (In the topic itself the emphasis should be placed on the word "brief" of the heading above.) The countries suggested tentatively are: (1) *Brazil,* (2) *Argentina* and (3) *Columbia* (the last in connection with the events centering around the proposed canal.) Of these countries, the capitals—which also happen to be the chief commercial centres—should be named and located, and the chief point of interest about each should be indicated. The countries themselves should be associated with some characteristic industry and the form of government, together with the character of the rulers and ruled, should be noticed.

History and Civics—5A.

M. J. Gollhofer, P. S. 55, Brooklyn.

HISTORICAL and biographical narratives are taken from Oriental and European history. Typical names are suggested, but it is not presumed that all can be considered in a half-year. Only a brief sketch of those studied is expected."

The teacher is cautioned against attempting or expecting too much. The historical sense in children develops slowly. The young mind should not be burdened with too much detail. In the earlier years the biographical and dramatic elements should be emphasized through oral presentation, but these should be typical and illustrative. Only very simple generalizations should be made. A careful use should be made of supplementary material. Maps and pictures should be employed to give place and vividness to the stories. Visits to such storehouses as the Metropolitan Museum of Art, the American Museum of Natural History, the Lenox Library, and the Long Island Historical Society, will prove valuable.

CONFUCIUS.

551–478 B. C.

I. China. 6th Century B. C.
    (*a*) Comparative smallness. (*b*) Lack of political unity.
II. Early life of Confucius; his mother; education.
III. Life as ruler and teacher; mode of instruction; what he taught; quotations.
IV. Later life; discouragements; Fame after death.
V. Facts about China to accompany the biography: Oldest nation; early knowledge of printing; compass; gunpowder; reasons for isolation.
VI. Ethical lessons.
    (*a*) Respect for parents and elders.
VII. Incidents.
    (*a*) The widow and the tiger; (*b*) Man imprisoned for accusing son.

BUDDHA.

470 B. C.

I. India in the 5th Century B. C.
    (*a*) Caste system; (*b*) government.
II. Early life of Buddha—rather mythical.
    (*a*) education; (*b*) distaste for surroundings.
III. Life as a teacher.
    (*a*) Almost ascetic; (*b*) mode of instruction.

IV. Later life—Fame throughout India.

V. Facts about India.
  (*a*) Aryan family; (*b*) remodeling of caste system; (*c*) Buddhism the established religion.

VI. Ethical Lesson—Love for animals.

SESOSTRIS.

RAMESES II.

I. Egypt about 14th Century B. C.
  (*a*) Size; (*b*) government.

II. Life—Warrior, Ruler.

III. As ruler.
  (*a*) Servitude of Semitic people; (*b*) Arabia invaded; (*c*) Red Sea.

IV. Facts about Egypt.
  (*a*) Pyramids, sphinxes; (*b*) coloring of glass; (*c*) transporting heavy loads; (*d*) fertilization of soil.

CHEOPS.

I. Name of first Pyramid builders.
  (*a*) Second king of fourth dynasty; (*b*) known as Kufer I.; (*c*) very cruel and oppressive; (*d*) lived about 2700 B. C.; (*e*) even his memory hated by people.

SARDANAPALUS.

668–626 B. C. (?)

I. Other name, Assurbanipal.

II. King of Assyria.

III. Warlike spirit.
  (*a*) Brilliant campaigns against enemies; (*b*) revolt against his rule; (*c*) tragic death at capital, Nineveh.

IV. Facts about reign.
  (*a*) Golden age of Assyrian literature; (*b*) Caused battles to be carved on his palace at Nineveh.

NEBUCHADNEZZAR.

604–561 B. C.

I. Size and government of Babylon at that time.

II. As a ruler—cruel and oppressive.

III. As a conqueror.
    (*a*) Sacking of Jerusalem; (*b*) siege of Tyre; (*c*) extent of Empire, Zagros Mts. to Mediterranean.
IV. Improvements made.
    (*a*) Great palaces; (*b*) hanging gardens; (*c*) gigantic reservoirs, canals, engineering works.
V. Later life—Sudden illness, return of health.
VI. "A reign of forty-three years—the longest, most memorable, and instructive in the annals of the Babylonian or Assyrian kings."

MOSES.

Born about first half of the 14th century B. C.

I. Hebrews under power of Egyptians.
II. Lived in eastern part of Nile delta.
III. Early life.
    (*a*) At court of Pharaoh; (*b*) driven into wilderness for forty years for a crime.
IV. The great law-giver and leader of Hebrews.
    (*a*) The forty years' wandering; (*b*) his patient endurance; (*c*) leader of people to Promised Land.
V. Facts about Hebrews.
    (*a*) Established monotheism; (*b*) handed down Bible.
VI. Ethical Lessons.
    1. Patience, endurance.
    2. Respect for parents.
VII. Death—burial place unknown.
VIII. Incidents.
    1. Giving of law on Mt. Sinai.
    2. Fixing of ceremonials of new race.

SOLOMON.

1015–975 B. C.

I. Son of David.
II. Jerusalem: size, government.
III. As a ruler—wisdom.
    (*a*) Patron of architecture, commerce and learning; (*b*) erected temple at Jerusalem aided by Hiram of Tyre; (*c*) extension of commerce by means of fleets; (*d*) magnificence of courts; (*e*) oppressive taxes.

IV. Death.
  (*a*) Ascent to throne of son; (*b*) revolt of tribes.

CYRUS THE GREAT.

558–529 B. C.

I. Persia in the 6th Century B. C.
  (*a*) Size; (*b*) government.
II. Leader of revolt against Medes.
III. As a ruler and conqueror.
  (*a*) Conquering of Lydia; (*b*) kindness toward Crœsus; (*c*) brings Persian empire into contact with Greek cities of Asia.
IV. Extent of empire—from Indus to limits of Asia Minor; Caspian Sea to Persian Gulf.
V. Death—burial at Pasargadæ. "Almost universal testimony has ascribed to him the purest and most beneficent character of any Eastern monarch."

HIRAM.

10th Century B. C.

I. Facts about Phœnician colonies.
  (*a*) A maritime nation; (*b*) colonies scattered all over; (*c*) spread of Phœnician culture and arts through countries of Mediterranean; (*d*) most prominent, alphabetical writing; (*e*) introduced use of bronze.
II. King of Tyre.
  (*a*) Friend of Solomon; (*b*) Furnished "Cedars of Lebanon" to Solomon for building temple.
III. Ethical Lessons.
  1. Did his best for everyone.
  2. Anecdotes.

ANECDOTES.

CONFUCIUS.

THE WIDOW AND THE TIGER.

ONE day when Confucius and some of his disciples were passing by the mountain, their attention was arrested by a woman who was weeping and wailing at a grave. Confucius stopped and sent one of his disciples to ask the reason for her grief. "My husband's father was killed here by a tiger, and my husband also; and now my son has met the same fate." When asked why she did not leave so fatal a spot, she replied that there was no oppressive government there. "Remember this, my children," said Confucius; "oppressive government is fiercer and more feared than a tiger."

SESOSTRIS.

SESOSTRIS was a king of Egypt, noted for his conquests. He never, however, succeeded in overcoming the Hettily, a nation bordering on upper Syria. On one occasion he set out with his army to conquer this land. On his journey he met two of his enemy's scouts, who at first refused to reveal the position of their people, but after much threatening they told all. With this knowledge, Sesostris proceeded to meet the enemy in open battle. His army was cut to pieces, and he himself surrounded by his enemies.

NEBUCHADNEZZAR.

IT is said that Nebuchadnezzar's Median queen, Anytis, pined for the mountain shades of her native land, with their cool and verdant bowers. So he ordered the construction of an artificial hill, disposed in terraces which, being covered with a layer of earth, were planted with the handsomest trees, amidst which, on the topmost terrace, a villa-like residence was erected for the queen, where she could enjoy, not only pure air and pleasant shade, but a beautiful view. This was the wonderful Hanging Gardens.

SOLOMON.

THE Queen of Sheba, having heard much about the wonderful wisdom of Solomon, came with a large following to visit him. In many ways she tried to test his wisdom, but he seemed to know everything. As a final test, she offered to him two roses, which were in all respects exactly alike. The courtiers could not discover any difference, and all were sure that here at least Solomon's wisdom would fail him, for one was a real rose and the other artificial. After pondering over the affair for some time, he noticed some bees buzzing outside the window, and ordered the window opened. Immediately the bees flew in and hovered around the real rose. Thus triumphed Solomon's Wisdom.

CYRUS.

WHEN Cyrus was born, the king, his grandfather, feared that he would avenge his father's wrongs by taking possession of the throne. To avoid this he gave the child to a shepherd, to set him out on the mountain to die. The shepherd, however, took him home and brought him up. After several years the king learned that Cyrus was living, and finally decided to let him live, and gave him back to his mother. About this time the people revolted against their ruler, and he was driven from the kingdom; but before going he caused Cyrus and his mother to be hidden away in Central Asia. At last one of Cyrus' friends found him, and after many adventures brought them back to Persia, where they were received with joy and Cyrus was crowned.

HIRAM.

AT one time Solomon proposed to Hiram certain puzzles to solve, to prove which of the two was the wiser. Hiram tried, but was unable to solve them, and, consequently, according to a former agreement, had to make a heavy payment to Solomon. Shortly after, a certain Syrian appeared, who correctly solved Solomon's puzzles and proposed others to Solomon, which he, despite his wisdom, could not solve. As a result, he not only had to return Hiram's money, but add another sum to it.

QUOTATIONS.

CONFUCIUS.

"Faithfulness and sincerity are the highest things."
"The cautious seldom err."
"Do unto others as you would they should do unto you."
"Walk in the trodden paths."
"To see what is right and not to do it, is want of courage."

QUOTATIONS.

SOLOMON.

"A soft answer turneth away wrath."
"The borrower is servant to the lender."
"A merry heart maketh a cheerful countenance."
"Wisdom is better than riches."
"Hope deferred maketh the heart sick."

[Similar analyses will be published in subsequent numbers.]

Grade 5B: Historic Plans, Buildings, and Monuments, in and about the City of New York.

By Frank B. Kelley.

Section 1. City Hall Park and Vicinity.

CITY HALL, erected in 1803-12 on the site of the Almshouse. Ascend the spiral stair-case to the Governor's Room; see portraits of Washington, former governors of New York, Gen. James Clinton and Alexander Hamilton; two desks of Washington, the furniture of the first Federal Congress (which met in the former City Hall on the Sub-Treasury site in Wall Street), a section of Stuyvesant's pear tree, the Erie Canal punch bowl and flags carried in 1789 and the Mexican War. A good view may be obtained from the balcony. Visit the Aldermanic Chamber where some interesting portraits may be seen. By special arrangement one may go up into the clock tower and on the roof.

On the first floor may be seen the Mayor's Office with its portraits of mayors and Lafayette, the Dutch and Federal yard-measures in the corridor, and the City Library, which contains many valuable books and records.

In the basement are the Marriage Room, City Record Office, Bureau of Licenses and some rooms once used as prison cells.

Outside, under the Mayor's Window, see the tablet commemorating the reading of the Declaration of Independence to the army here in Washington's presence in 1776. A tablet in the sidewalk in front of the building marks the opening of the Rapid Transit Tunnel in 1900. Note that while the front and sides of the building are of marble, the rear is of sandstone (painted to resemble the front), as it was not supposed the city would reach above Chambers Street.

St. Paul's Chapel (corner of Vesey Street), the oldest church structure in the city, built 1764-66 (the steeple not until 1794). See the Montgomery Monument in the rear, in the Broadway wall of the building, and in the churchyard a cenotaph to Thomas Addis Emmett, and the graves of Beverly Robinson, the actor Cooke, Sieur de Roche Fontaine (aide to Rochambeau) and other famous men. A plan of the grounds with copies of the epitaphs may be obtained from the sexton. See within the church the pews of Washington and Governor George Clinton, the original sounding board over the pulpit with the coat of arms of the Prince of Wales, and several tablets.

In the Trinity Corporation Building, at the foot of the yard, may be seen a number of interesting historic relics.

Astor House (north of St. Paul's), one of the oldest New York hotels, built 1834-38; its books contain autographs of many famous men.

Tablet at southeast corner of Murray Street and West Broadway marks the site of King's College (called Columbia since the Revolution), which occupied the land between Murray and Barclay Streets, Church Street and West Broadway (until lately called "College Place"). The ground sloped down to the river, which ran up to Greenwich Street. This open space aided in stopping the great fire of 1776. The college entrance was on Murray Street, and for many years the gates were supported on four cannon taken from the Battery by Alexander Hamilton in 1775. The building was used for a time as a British prison. The college was moved to Madison Avenue and 49th Street in 1857, Columbia Grammar School, now at 34 East 51st Street, becoming a separate institution at this time.

Because of the growing traffic on the West Side, College Place (old "Chapel Street") was widened and cut through to Vesey Street in 1892, and lower Church Street was widened and called New Church about 1875. The line of the former sidewalk may be determined by the elevated railroad.

SECTION II. GREENWICH VILLAGE AND LISPENARD'S MEADOWS.

Washington Square. Made a park, 1827; Potter's Field, 1789-1823; New York University (Washington Square East), former building erected 1830, scene of Stone Cutters' riot and inventions of Morse and Draper; gave name to University Place. See statues of Garibaldi and Holley; Washington Arch, erected 1889, to commemorate the anniversary of Washington's inauguration.

Second Beth Haim ("Place of Rest"), established here 1729 and partially removed in 1830 to the southwest corner of 6th Avenue and 21st Street. The old "Grapevine" adjoining was once a popular roadhouse. Eleventh Street (called "Hammond Street" west of Sixth Avenue) was opened in 1830. At 33 West 11th Street the rear building marks the line of the old Union Road joining Skinner Road (Christopher Street) and Southampton Road (Gansevoort Street); see the old cistern and chimney. The walls of 28-36 and 49 West 13th Street and 43-44 West 12th Street mark the line of the Union Road.

Old houses on Weehawken Street, possibly built before 1767. One of the houses was once a station of the Hudson River R. R. The blocks between Greenwich, West 10th and Christopher Streets form the terminal for the N. Y. and N. J. R. R. Co.'s tunnel.

Hudson Park occupies the site of St. John's Cemetery, which was converted into a park in 1898. See the Firemen's Monument and tablets; the pool and fountain are in the French-Italian style of the 17th century.

SECTION III. "BOWERY VILLAGE" (2D STREET TO 16TH STREET).

Start from Third Avenue Elevated Railroad Station at 9th Street and go up Stuyvesant Street.

1. Twenty-one Stuyvesant Street, home of Nicholas Stuyvesant, where Hamilton Fish was born. See old-fashioned houses on south side of street.

2. "St. Mark's-in-the-Bowery" (Second Avenue and 10th Street), the second oldest church edifice in New York, erected 1795-99, on the site of St. Mark's Chapel, built by Peter Stuyvesant. Stuyvesant's "Bouwerie House" was just northwest, and is said to have been the place where the terms of surrender to the English were signed in 1664. The house was burned in the early part of the Revolution. "Petersfield," another home of the Stuyvesants, was on the East River shore, between 15th and 16th Streets. Nicholas William Stuyvesant's house was between First and Second Avenues, 8th and 9th Streets, with an approach from 6th Street and Bowery Lane.

Stuyvesant's Tomb is beneath the tablet erected to his memory under the southeast end of the church. In the same vault are the remains of Governor Sloughter (died 1691), and across the walk, in the Minthorne vault, Governor D. T. Tompkins is buried.

Second Mile Stone, Third Avenue, between 16th and 17th Streets, marked the distance from the old City Hall, on Wall Street, on the site of the Sub-Treasury.

The Tombs and the Criminal Court Building, joined by the "Bridge of Sighs." The original "Tombs" was erected in 1838, of stone brought from the "Bridewell" in City Hall Square. The site is near the center of the Collect ("Kalch Hoeck" or Lime Shell Point, from the Indian shell-heaps in the vicinity), or Fresh Water Pond, which was sixty feet deep and covered seventy acres, between Elm, White, Mulberry and Leonard Streets. The murder of an Indian here in 1626, led to a massacre in Governor Kieft's day. This was a favorite resort for fishermen and skaters, and here Fitz-Green Halleck's father is said to have saved Prince William (later William IV. of England) from drowning. Christopher Colles built a pumping station in 1774 at Pearl Street and Broadway, and a reservoir at Broadway and White Street, in order to supply the city with water from this pond. The "Little Collect" was between Elm, Worth, Duane and Park Streets, and joined with the Collect. On its shore, in colonial days, was a powder house. In 1796, John Fitch experimented with his steamboat on the Collect. The pond having become a menace to the health of the community, it was filled in about 1812, its water being drained off by a canal or open drain to the North River through Canal Street.

The Manhattan Water Tank, corner of Duane Street, now enclosed but visible through the windows. This tank was built by the Manhattan Water Company, which was headed by Aaron Burr, whose real aim was to get a charter in 1799 for the Manhattan Bank (now at 40 Wall Street). The source of the water supply is the same springs which originally filled the Collect Pond. Wooden pipes or bored logs were laid through the streets and connected with residences. The charter of this bank still depends on keeping the tank filled.

NEW YORK CITY SOUTH OF WALL STREET.

Trinity Church was incorporated in 1697. The first building was burned in 1776 and rebuilt in 1788. The present building was erected in 1848. The churchyard is the site of the West Indian Company's Garden, where were "the Locust Trees." This property, together with Farm No. 1, above Wall Street, and the Annetje Jans or Bogardus Farm, were granted to Trinity by Queen Anne about 1705, forming the source of the great wealth of this corporation.

See the tombs of Captain Lawrence, Alexander Hamilton, William Bradford, Robert Fulton (Livingston vault), Robert Livingston.

Bowling Green, the Dutch "Plein" or Common, was the heart of New Amsterdam, and is now the geographical centre of Greater New York. East and west of the Green was the Dutch "Marketfield" on Broadway and on Whitehall. Here was a farmers' well, the water from which ran off through Beaver Street (Blommaert's Valley). The iron fence around the Green came from England and dates back to 1771. The iron balls which were formerly on the posts were broken off for ammunition in 1776. Near the centre of the Green the leaden statue of George III. was set up in 1770, and pulled down and moulded into bullets in 1776. Later, the present fountain was placed on this spot. Notice the statue of De Peyster (Mayor, 1691-96) facing south. The Green was the scene of the riots of 1765, 1776 and 1794 (Jay Treaty).

The Battery: In early times a stockade extended along the line of Battery Place, State and Whitehall Streets. The old shore line followed the present line of the elevated railroad from Greenwich Street to Whitehall Street. Fort Clinton, built in 1806 afterward called "Castle Garden," and now the Aquarium (tablet within), was on Kapske Rock, in the Bay, and was joined to Manhattan by a drawbridge (see picture of fort in 1815 on handsome old blue platter, presented by the Misses Earle, and now in the office). Battery Park, formerly a shoal, was filled in between 1800 and 1825.

See flagstaff where Van Arsdale raised the American flag in 1783, near the Barge Office (Immigration Bureau).

Broad Street (called the "Common Ditch" and the "Heere Gracht") is the site of the ditch which drained the swamp between Beaver Street and Exchange Place. The Dutch converted it into a canal about 1657-59. The street on each side of the canal was paved in 1660, the owners of the abutting property dividing the cost with the city, according to the Dutch custom. The canal was filled in about 1676. Valentine tells us that some fifty years ago poles with ropes attached were dug up here. They had probably been used for mooring boats.

Fraunces' Tavern, northeast corner of Pearl and Broad Streets (52 Pearl), built in 1730. Here was organized (April 8, 1768) the New York Chamber of Commerce. Tablet (erected by the Sons of the Revolution). The upper "Long Room," where Washington said farewell to his officers in 1783, may still be seen.

The Sub-Treasury (facing Broad Street) occupies the site of the English City Hall (1699), which became the State and Federal Capitol. The Statue of Washington (erected by the Chamber of Commerce) marks the spot on which he delivered his inauguration address in 1789. The stone on which he stood is within the building, and bears an inscription referring to this fact.

Nassau Street (opened in 1693) was at first called the "Road by the Pye Woman's," later, "Kip Street."

UPPER CENTRAL PARK AND MOUNT MORRIS PARK.

Enter Central Park at the "Girls' Gate," 102d Street and Fifth Avenue, and follow East Drive to——

1. McGown's Pass Tavern, near the site of the Revolutionary tavern where Washington decided to evacuate New York in 1776. The old Post Road ran through this path, branching just north, one road continuing to Harlem, the other, "Harlem Lane," running northwest to meet the Bloomingdale Road. Along this road the Americans were pursued by the British, September, 1776.

Take path on the right to top of hill above Harlem Mere. See remains of——

2. Fort Clinton, an American redoubt strengthened by the British, whose lines reached the Hudson at 106th Street. See old cannon and mortar. This locality is sometimes called Mount St. Vincent from the convent formerly here located.

3. Block House No. 1, on the rocky bluff opposite "Warriors' Gate" (Seventh Avenue). This was one of four forts in 1812 guarding the roads from Hell Gate and the north. See Lossing's "Field Book of the War of 1812," pp. 971-978.

4. The Roger Morris (Jumel) Mansion, 161st Street, near Edgecombe Avenue), built in 1758 by Colonel Roger Morris, of the British Arms; occupied by Washington in 1776 and later by Knyphausen; owned since the Revolution by Stephen Jumel (whose widow here married Aaron Burr in 1834), John Jacob Astor and General F. P. Earle. The house commands a fine view of the city below and of the upper Harlem. See the tablet erected by the Daughters of the American Revolution.

5. A side trip to the northwest end of the island near the outlet of Spuyten Duyvil Creek (the origin of the name is explained by Diedrich Knickerbocker) brings one to an old farm-house built many years ago. Nearby is the "Cold Spring," frequented by both Indians and whites for hundreds of years. Just south of it is an Indian shell-heap, and in holes in the rocks above were discovered many Indian relics and skeletons by City Engineer Alexander Chenoweth. Part of the collection is on exhibition in the Natural History Museum. The Indian name of this locality (including Spuyten Duyvil) was "Shorackappock" or "the fire place," significant of the tribal meetings held here. It is supposed that Henry Hudson anchored off shore at the mouth of the creek and traded with the natives.

6. Van Cortlandt Mansion, built 1748 by Frederick Van Cortlandt and now owned by New York City. It was one of Washington's headquarters and is fitted up as a museum by the Colonial Dames. (Open daily to the public from 10 to 5.) The official guidebook contains a complete history of the house and the estate. The old mill was built by Philipse long before the Revolution. Tippett's Brook received its name from an early owner of the property.

Geography Work—6A.

By Ella C. McNairr, P. S. 171, Manhattan.

[Work of first ten weeks appeared in the December number of the Monographs.]

ELEVENTH WEEK—EUROPE.

1. Location: In north frigid and north temperate *zones;* in *latitude* from about 35° to about 70° north; in *longitude* from 10° west to 60° east; with Arctic *ocean* on north and Atlantic on west; east of North America, from which separated by Atlantic ocean; west of Asia, of which it is really a great peninsula.

Coast line: Most irregular of continents, due to sinking of land; compare with North America; many fine harbors, some far in interior of continent.

Size: Larger than Australia; less than half the size of North America; little larger than United States; about one-quarter of land surface of earth.

2. Surface: High mountains in south extending mainly east and west; low mountains in north and east; remainder or about two-thirds of Europe extensive lowland plain; glacial period result; compare with North America.

Drainage: Large rivers, innumerable lakes and canals.

3. Principal river systems: Sketch largest; compare direction of flow and extent of basins; show effect on soil, industries and trade.

TWELFTH WEEK—EUROPE.

1 and 2. Climate: Near Arctic, bleak; central region, temperate; southern, semi-tropical; compare with western North America; show effect of ocean winds (contrast British Isles and Russia), of mountain ranges and of inland seas; show effect of climate upon people (contrasting temperaments), differences in occupation, etc.

3. Countries: Names; capitals; relative importance, general idea of reasons for this.

THIRTEENTH WEEK—BRITISH ISLES.

1. Location: In Atlantic Ocean; direction from mainland; how separated; compare latitude with that of Labrador, and that of London with that of New York.

Size: England smaller than New England, and entire British Isles but little more than twice the size of Pennsylvania; relative importance and population.

Climate: Compare with that of United States; effect of ocean winds and highlands; effect of climate on development.

Coast line: Very irregular; fine harbors; compare with New England.

Surface: Low highlands, some rugged and barren; fertile lowlands.

Drainage: Small rivers with broad mouths forming fine harbors.

2. Resources: Soil, parts too sterile for farming used for grazing; twice as much pasture as farm land.

Forests: Almost none; no lumbering; mineral deposits varied and valuable.

Fisheries: Abundant supply of food fish.

Industries and occupations: Raising of fine live stock, chiefly sheep; fishing, mining, quarrying, and principally manufacturing and commerce.

Products: Animal, cattle, sheep, cod, herring, haddock, salmon.

Vegetable: Grain, vegetables, hops.

Mineral: Coal, iron, tin, copper, lead, zinc, limestone, granite, slate, salt, clay.

Manufactured: Cotton, woolen and linen fabrics, iron and steel ware, ships, locomotives, machinery, etc., etc.

3. Commerce: Of great bulk and value; shipping points on eastern, western and southern sides, network of railways and canals; London, greatest shipping port in world; largest merchant marine and foreign trade; reasons.

Exports to United States: Cotton, linen and woolen cloths, ships, etc.; importance of trade relation.

Imports: Cotton, wool and food stuffs.

Chief cities: London, size, harbor, position, imports; Southhampton and Liverpool, commerce with America, Bristol, Glasgow, etc., etc.

People: Of mixed descent; most successful colonizers; progressive and forceful.

Government: Limited monarchy; king; parliament (compare with Congress); very satisfactory to people.

FOURTEENTH WEEK—GERMAN EMPIRE.

1. Location: Position among countries of Europe; latitude.

Climate: Compare rainfall with eastern United States; effect of ocean and altitude.

Surface: Two distinct sections; southern, Alpine plateau with low mountains; no northern lowlands, generally rolling.

Drainage: Northward into North and Baltic seas; five main waterways.

Size: Nearly twice as large as British Isles; four times that of Pennsylvania.

Coast line: About one-third of boundary; good harbors.

Bordering countries: Seven.

2. Resources: Soil, naturally not very fertile, but nine-tenths productive, due to cultivation.

Forests: Valuable; system of preservation.

Mineral deposits: Rank next to British Isles; compare with United States.

Manufactures: Rank next to British Isles; centres well distributed.

Industries and occupations: Agriculture, grazing, lumbering, mining, manufacturing and commerce.

Products: Animal, cattle and swine; sheep decreasing; show reasons.

Vegetable: Rye, potatoes, sugar beets, hay, oats, barley, hops, tobacco, grapes.

Mineral: Coal, iron, zinc, silver, lead, copper, salt, clay.

Manufactured: Ironware, cotton, woolen, silk and linen goods, beer, wine, sugar, lace, glass, porcelain.

3. Commerce: Very large, central location; most markets at door; railways; shipping exports to United States; manufactured products.

Chief cities: Berlin, railway and manufacturing centre; Hamburg, shipping centre; Leipsig, Dresden, etc.

People: Various origin; rapid development since 1871; educated, scientific, economical; army; comparative population.

Government: Constitutional monarchy; emperor (compare with British Isles).

FIFTEENTH WEEK—FRANCE.

1. Location; Compare with British Isles and countries in United States in latitude and longitude; position on continent.

Climate: Even distribution of rainfall; compare temperature with that of England; influence of Mediterranean and bordering mountains.

Surface: Highlands in south and southeast; three-quarters of country comparatively level plain sloping westward; effect on commerce and agriculture.

Drainage: Three main waterways rise in central plateau, flow to Atlantic; direction of Rhone; navigation possible far into country.

Coast line: Great extent on three sides.

Bordering countries: Five; mountain walls.

Area: About twice as large as British Isles and but little smaller than German Empire; population.

2. Resources: Soil well adapted for agriculture.

Mineral deposits: Inferior to British Isles.

Manufacturing: Largely developed.

Industries and occupations: agriculture, mining, quarrying, manufacturing and commerce.

Products: Animal: cattle, sheep, wool; vegetable: grain, grapes, olives, oranges, mulberry trees.

Mineral: Iron, coal, fine clay, building stone.

Manufactured: Silk, velvet, wine, metal, cotton and woolen goods, carpets, porcelains; effect of artistic temperament.

3. Commerce: Very valuable, shipping, railroads and canals; rank as third commercial nation in Europe; exports to United States, silk, velvets, wines, porcelains, etc.

Cities: Paris, political, artistic, manufacturing and commercial centre; Havre, trade in coffee with Brazil and in wheat with United States; Lyons, Bordeaux, Marseilles, etc.

People: Noted for intelligence, vivacity and thrift; compare earnings and wealth with that of other European nations.

Government: A republic; compare with United States.

SIXTEENTH WEEK—RUSSIA.

Location: From Arctic Ocean to Mediterranean Sea and from Baltic to extreme eastern boundary; compare location in latitude with other countries and with North America.

Size: Compare extent of entire empire with United States. Portion in Europe larger than all other European countries combined.

Climate: Effect of distance from ocean; severity of winters, extremes in temperature and rainfall; climatic belts.

Surface: Compare with prairies in United States; height of central divide; Caucasus mountains.

Drainage: Many lakes; very long rivers; velocity of currents; value for navigation; effect of climate on waterways.

Coast line: Vast extent, but few available harbors; effect of climate on harbors.

2. Resources: Soil; well adapted for agriculture and grazing.

Forests: Cover nearly one-third of country; very valuable fur-bearing animals.

Mineral deposits: Source of wealth.

Fisheries: Quite extensive.

Manufacturing: Not well developed.

Industries and occupations: Farming, herding, fishing, lumbering, mining, manufacturing and commerce.

Products: Animal: sheep, cattle, horses, fish, caviar, fur.

Vegetable: Wheat, other grains, hay, potatoes, sugar beets, flax, grapes, tobacco, corn, olives, cotton.

Mineral: Gold, silver, copper, platinum, petroleum, precious stones, graphite.

Manufactured: Sugar, flour, cotton, linen, woolen and iron goods.

3. Commerce: Increasing rapidly; shipping canals, railroads.

Exports to United States: Fur, caviar, etc.

Chief cities: Moscow, St. Petersburg, Nijni Novgorod (fairs), Odessa location, advantages, exports, etc.

People: many kinds under one realm; forty different languages; reasons for slow advance to civilization; comparative population.

Government: Absolute monarchy (Czar); discontent on part of people, with lack of liberty.

SEVENTEENTH WEEK—AUSTRIA-HUNGARY.

1. Location with reference to Russia, German Empire and Italy. Compare latitude with that of France.

Surface: One of the most mountainous in Europe; boundary ranges enclosing broad plain.

Climate: Variations and extremes in temperature and rainfall, effect of mountains.

Drainage: Danube, passageway through mountains; navigable from mouth to Germany; "Iron Gate"; ship canal.

Size: Ranks next to Russia, though only about one-half its area. Population.

Coast line: Small extent; good harbors, but inaccessible from interior; reason.

Bordering countries: Eight.

2. Resources: Soil: adapted for agriculture in central and eastern parts.

Forests: Abundant.

Mineral deposits: Valuable.

Manufacturing: In northwest. Great progress being made.

Industries and occupations: Agriculture, herding, lumbering, mining, manufacturing, commerce.

Products: Animal: fur, cattle, sheep, goats, wool.

Vegetable: Grapes, mulberry tree, flax, hemp, corn, sugar beets, tobacco, wheat, rye, barley, oats.

Manufactured: Cotton, woolen, iron goods, flour, paper, sugar, silk, porcelain, glass.

3. Commerce: Extensive internal along navigable rivers and railways, but little ocean trade; very small merchant marine. Greater part of foreign trade carried on through foreign ports; disadvantages.

Chief cities: Vienna (size of Philadelphia), Buda Pest, etc.

People: Effects of mountains; mixture of peoples, dissimilar in religion, ambitions, customs and interests. German official language.

Government: Empire (Emperor); each country has own constitution, laws, etc.; common interest in army, navy, foreign affairs, finance.

EIGHTEENTH WEEK—ITALY.

1. Location: "The very heart of the Mediterranean lands." Compare latitude with United States.

Size: Includes Sicily, Sardinia and neighboring islands. Smaller than British Isles and only three times as large as Pennsylvania. Population.

Surface: Peninsula; mountains throughout most of extent. Lowlands on narrow coastal plains and in Po Valley.

Climate: Exceptionally warm and sunny. Wall of Alps; influence of Mediterranean; rainfall.

Drainage: Source of rivers; permanent supply of water; floods; diking; irrigation.

Coast line: Very extensive; many fine harbors.

Bordering countries: Three.

2. Resources: Soil: very fertile; climate and irrigation induce four to ten crops per year.

Mineral deposits: General absence of valuable minerals.

Fisheries: Source of livelihood.

Industries and occupations: Agriculture, pasturing, quarrying, fishing, sponge-fishing, manufacturing.

Products: Animal: eggs, sheep, wool, goats, fish, sponges.

Vegetable: Rice, corn, wheat, olives, oranges, lemons, flax, hemp.

Mineral: Marble, sulphur, iron, zinc, copper, coal.

Manufactured: Silk, woolen, cotton and linen fabrics, glass, lace, statuary, wine, macaroni, olive oil, mosaics. Compare artistic products with those of France.

3. Commerce: Some by sea, but most foreign trade carried on through Alpine tunnels.

Exports to United States: Raw silk, wine, olive oil, sulphur.

Chief cities: Along coast: Naples (size of Boston), Rome, Genoa, Venice, Palermo, etc.

People: Mixture of many races due to position of country. Italian, general language.

Government: Limited monarchy (king).

NINETEENTH WEEK—OTHER EUROPEAN COUNTRIES.

1, 2, 3, Treat very briefly: location, products, cities, government.

TWENTIETH WEEK—REVIEW OF EUROPE.

The North American Indian: 6A.

The North American Indian, though physically and mentally not an unfavorable specimen of the human race, was a savage of a very low grade when he was suddenly brought into close contact with European civilization. In most parts of the continent the first European to appear was the fur-trader offering to the Indian what was to him fabulous wealth in iron implements, fire-arms and ornaments for the products of his hunting. The result of this trade was the utter demoralization of the red man. It put a premium upon savagery. First, the most savage individuals of the tribe, acquired wealth and influence; then the tribes which took most readily to the fur trade became all powerful through the possession of fire-arms and the assistance of their pale-face allies; and lastly, as a consequence, those tribes which preferred a settled life were swept out of existence by their savage neighbors who wished to enlarge their hunting grounds and to take scalps. The Iroquois Six Nations, provided with fire-arms by the Dutch of New Amsterdam, spread fire and slaughter from the Penobscot to the Mississippi, and, later, the Ojibways did the same thing along the upper lakes. When the Europeans seriously settled down to the business of making homes in America, it was their prevailing idea that the Indian should take what land he could cultivate and allow the white settler to do the same. With the improvement of agriculture the necessity for hunting would no longer exist, and self-governing communities of Indians could, without creating any disturbance, exist among communities of white men. This idea prevailed even after the foundation of the United States Government, and from it sprang the pernicious habit or system of dealing with the Indian tribes by treaty—a system which was wholly impracticable. The active men of the tribes, the warriors, as they wished to be called, had no inclination to exchange the lucrative business of fur hunting for the slow and laborious work of agriculture. As the game became scarcer, they were more jealous of their hunting grounds and intruding settlers were massacred. This led to reprisal and war, and it was soon evident that either the richest portion of North America must remain wilderness or the Indian must be exterminated. No earthly power could have stopped the course of Anglo-Saxon settlement, and the Indian was saved from actual physical extermination only by the system of deportation put in operation by the United States Government. Before 1855, the forest Indians had, with the exception of a few Seminoles in Florida and the Ojibways and some kindred tribes in the far north, been reduced to utter insignificance or removed beyond the Mississippi.

Exactly the same struggle followed the advance of white settlement beyond the Mississippi, with the difference that on the western plains there were large areas of arid land for which the white men had no use, and in these districts the Indians were allowed to collect and remain. About 1876, the problem of the hunting grounds was forever solved by the practical extinction of the game animals. When this took place the Indians, to escape starvation, allowed themselves to be concentrated on small reservations where rations furnished by the United States Government supplied the place in their economy formerly filled by the products of the chase. This policy produced the "agency Indian," the most unfavorable specimen of the race. It was so much cheaper and easier to feed the Indian than to kill him, that the agency system was for some years accepted by the general public as a practical solution of the Indian problem. The agency Indian, however, rapidly developed into an able-bodied loafer, a nuisance to his neighbors and a discredit to his official guardians; and the present policy was inaugurated, which is being slowly but surely carried into effect, and is designed, ultimately, to break up the tribal organizations and give each member of the tribes his share of the tribal lands and accumulated funds as his individual property. Thus equipped, the Indian takes his place as a citizen and succeeds or goes under like a white man.

"Hiawatha" is concerned principally with two tribes—the Ojibways or Chippewas, and the Dakotahs, better known as the Sioux. The feud between the two tribes mentioned in the poem still exists in full force. The Ojibways were first supplied with fire-arms and, by that means, drove the Dakotahs from their eastern hunting grounds in what is now Wisconsin. This outrage the Dakotahs never forgot, and the two tribes were never at peace until compelled to stop scalping each other by the authority of the United States. There are about 20,000 Ojibways now scattered in a dozen or more agencies in Wisconsin, Michigan and Minnesota. The bulk of the tribe is rapidly becoming civilized, and this tribe will doubtless be one of the first to lose its existence under the land policy now in operation.

The name of Dakotah or Sioux denotes a race rather than a tribe, and includes nearly 40,000 Indians at various agencies in the Dakotas, Montana and Wyoming. The Dakotahs have always, since their first contact with the whites, been warlike and troublesome, and future historians will note that this tribe produced the last Indian chief and medicine man who seriously endeavored to stop the onward advance of white settlement.

Grammar—6B.

Analytic Arrangement of Topics for Months and Weeks.

GRACE E HUNT, Public School 55, Brooklyn.

FIRST MONTH.

First Week: Review the classification of sentences, according to meaning. Examples given by the class. Review the principal parts of a sentence, taking first the complete subject and the complete predicate; then subject noun, etc. Definitions should come after the teaching is completed and the examples are given. All questions are to be analytical, and answers must be given in complete sentences.

Second Week: Review the pronoun. Teach the personal pronoun. Arrange synoptically the pronouns by persons, aided by numbers on the board. Emphasize the fact that the possessive case uses no apostrophe. Explain why.
Teach the interrogative pronoun.
Review the article as such. Dwell on the correct use of the indefinite "a" or "an."

Third Week: Teach the Relative Pronoun. Develop clearly its double functions. The restrictive and limiting clause should be carefully distinguished from that which gives new information regarding the antecedent, and in this connection the rules of punctuation for relative clauses are to be taught.
Review the adjective. Teach the adjective pronoun. The use of the possessive pronoun as an adjective-modifier should be made clear. Here the spelling of *its* may be drilled.

Fourth Week: Teach the modifications of the pronoun, person, number, gender. All to be developed inductively by examples. Lists of declensions to be prepared in synoptical form.
Analysis of simple declarative sentences.

SECOND MONTH.

First Week: Case of pronouns. Drill on common errors. "It is me." "Him and me." "Who did you see?" "Between you and I."

Second Week: Declension of personal pronouns throughout. Arrangements of all the personal pronouns. In all sentences analyzed, parsing of pronouns should be a part of the work.

Third Week: Review adjective and complement, word adjective. Analysis of Simple Interrogative Sentences. Teach declension of the interrogative pronouns.

Fourth Week: Review the adjective; teach descriptive adjective. Parse interrogative pronouns.

THIRD MONTH.

First Week: Review descriptive adjective. Teach demonstrative adjective. Decline relative pronouns.

Second Week: Compare adjectives. Parse adjectives. Analysis of simple imperative sentences. Parse relative pronouns.

Third Week: Review the noun. Teach common and proper nouns. Parse adjective pronouns. Review the compound subject and the conjunction.

Fourth Week: Teach *person, number, gender,* of nouns; same as with pronouns. Review the adverb. Teach adverbs of time. Teach the compound predicate.

FOURTH MONTH.

First Week: Teach the case of nouns; same as with pronouns. Parse nouns.

Second Week: Analysis of the exclamatory sentence. Teach adverbs of place. Take up compound complement pronouns.

Third Week: Adverb of degree. Compound complement nouns.

Fourth Week: Adverbs of manner. Teach an interrogative adverb. Compound complement adjectives.

FIFTH MONTH.

First Week: Review the preposition and the conjunction. Teach copulative conjunctions as such; also disjunctive.

Second Week: Noun phrase. Review phrases. (This is the infinitive phrase used as a part of the sentence, subject or complement.)

Third Week: The adjective phrase.

Fourth Week: The adverbial phrase.

Modes of presentation of some of the typical subjects are here given. They are to be considered only as suggestive outlines.

RELATIVE PRONOUNS.

The girl *who* studies receives a good mark. What part of speech "who?" Why a pronoun? Used instead of a noun. It means "the studious girl," it means "girl," and, describing her, she is the "studious girl." *Who relates* to some noun or pronoun before it. *Who relates* to *girl.* It limits the noun "girl," which we call the *antecedent,* meaning "before." The idea that belongs to a relative is that it connects, with an antecedent noun or pronoun, an adjective clause that limits that noun or pronoun. A relative, therefore, holds a conjunctive office as well as that of another part of speech.

The girl receives a good mark. Does every girl receive a good mark? No, only those who study.

The girl who studies receives a good mark.

A *relative pronoun* is a pronoun that represents an antecedent word and connects clauses.

I met the teacher *who* had been ill.

Meta's book *which* her father bought for her has been lost.

He knew *what* his friend had told him. He knew *that which* his friend had told him.

Lines *that* are parallel never meet.

Relative Pronouns:
- who—persons only.
- which—animals and things.
- what—things.
- that—applied indifferently to persons, places and things.

CASE OF PRONOUNS.

The *boy* runs swiftly. Part of speech of underlined word? Why? Tell me something about the boy, but use a pronoun. *He* has been trained to do it. Part of speech is "he?" Why? Person? Why? Number? Why? Gender? Why? *How* is the word *he* used in the sentence? As *subject* of the verb "has been trained?" When a pronoun is "subject" in the sentence, we say it is in the *nominative case.*

Case is a modification of a noun or pronoun that distinguishes the relation of it to other words.

The child has *his* book in *his* hand. Part of speech is *his?* Why? Kind? Why? Person? Why? Number? Why? Gender? Why? How is it used in the sentence? It is *not* used as the *subject*, but as the *relation* of *property; ownership shows possession.* "*His* book," the book that belongs to him; "*his* hand," the hand that belongs to him. When a pronoun denotes *possession*, we say "it is in the *possessive case.*"

Your mother met *me* to-day. Part of speech of underlined word? Why? Kind? Why? Person? Why? Number? Why? Gender? Why? How used in the sentence? *Not as* the *subject*, for I am speaking about "mother." *Not as possessive*, for I don't know what "me" owns. It is used as the *complement word* in our sentence, for it *completes* the *predicate verb*. Your mother met—me. When it is the *complement word*, completes a finite verb, we say "it is in the *objective case.* A "finite" verb is a verb in any other mood than the infinitive. Infin.—to speak. Finite—speak.

It was I.
It was she.
It is he.
It is you.

After the verb "is," we use the "nominative case."

KINDS OF ADJECTIVES.

The *happy* children ran quickly. Of whom am I speaking? *Children.* What word *describes* those *children? Happy.* We call it a descriptive adjective.

This book is mine. Of what am I speaking? *Book.* What word tells me about the book? *This.* It proves beyond doubt what book is mine, what book belongs to me. *This* book. When adjectives prove beyond doubt to what they refer, we call them *demonstrative* adjectives. *Demonstrative* means to prove beyond doubt.

COMPARISON OF ADJECTIVES.

The *neat* paper was sent to the office. Of how many papers am I speaking? One. *Compare two* papers. That is a *neater* paper than this One. Compare more than two papers. This is the *neatest* one —comparing more than two—3, 10, 50, 75 or 100 or more.

When the adjective is in its simplest form, we say it is in the "positive" degree. When two things are compared, the adjective is in the "comparative" degree. When more than two things are compared, the adjective is in the "superlative" or highest degree.

Comparison is a variation of the adjective to express quality in different degrees.

POSSESSIVE CASE OF NOUNS.

When one girl owns a hat, we must add something to show that she possesses it.

The *girl's hat* is here. To form the singular possessive we add the *apostrophe* and *s* to the noun.

The *boy's* coat is torn.

The *lady's* gloves are lost.

We have plurals of two kinds—those that end in s, those that do not end in s.

Girls—The *girls* are here.

Children—The *children* are still.

Now we will insert a word in the first sentence to show us what the girls possess.

The *girls' rubbers* are here. What do the girls own ? "Rubbers." To show that the girls own the rubbers we add an *apostrophe.*

In the second sentence insert a word to show ownership.

The *children's feet* are still. What do the children possess ? "Feet." To show that the children own the feet, we add *apostrophe* and *s.*

To form the *singular possessive,* add an *apostrophe* and *s* to the singular noun. *Girl—girl's* hat.

When a *plural* ends in *s*, we add an *apostrophe* to denote possession. Sing.—*lady*. Plu.—*ladies*. Plu. Poss.—*ladies'*.

When my *plural* does *not* end in *s*, we add an *apostrophe* and *s* to denote possession.

Sing.—*ox*. Plu.—*oxen*. Sing. Poss.—*ox's* Plu. Poss.—*oxen's*.

KINDS OF CONJUNCTIONS.

What is a *conjunction?* A word used to connect words or clauses.

Honesty *and* faithfulness lead to success.

Carrie is diligent, *but* her sister Rose is idle.

He *and* I shall not dispute. What does the conjunction *and* denote? It denotes that, if he has any choice about it, I shall readily acceed to his request. It denotes an addition, a cause, or a supposition. I shall not dispute about it, because, no matter what he wishes to do, I shall do it. We call this kind of a conjunction a *copulative* because it unites, joins, connects, combines.

Virtue is its own reward, *and* vice brings its own punishment.

What is a conjunction? Why? It unites two independent clauses in such a way as to expand the idea of the first thought. We call it a *copulative* conjunction. It gives us an addition or a cause, a supposition.

Be not overcome with evil, *but* overcome evil with good.

You go now, *or* I shall report you.

I cannot go, *unless* you are obedient.

What are the conjunctions? Why?

Do you think they give us an addition or a cause to our sentence? Do they help or serve to disconnect or separate the thoughts? Are the sentences capable of being joined or of being united? Do you think they denote opposition of meaning? They are called *disjunctive*, not joined.

ADJECTIVE PHRASES.

What is a phrase? Illustrate.

Give me a phrase used as a noun. "To sing is beneficial." I can use a phrase to describe a noun. The girl, in our house, learned to sew. Of whom am I speaking? "Girl." Of what girl am I speaking? The girl in our house. If it describes a noun, we call it an adjective phrase. Why phrase? Why an adjective?

The Work Shop with Constructive Drawing in the 6th, 7th and 8th Years.

By Samuel F. Coleman, Instructor in Shopwork, P. S.'s 11 and 80.

CONSTRUCTIVE or Mechanical Drawing is the graphic representation of the proportions and relations of the parts of an object by means of two or more direct views. These views are made on planes so placed as to give the three dimensions of the object in their true ratios; they may be made full-sized or to scale, depending on the size of the object and on what is required of the drawing.

The aim of the course, in its broadest sense, is to give some knowledge of the steps preliminary to the construction of that world of things which is the product of man's hand, together with some appreciation of the necessity of fitness to purpose, strength and beauty in the structural design. Further, the more particular aim is to enable the child mentally to see and to know the object through the conventional representation of the Mechanical Drawing, and to develop, as much as possible, through the doing, that habit of accuracy in working which is the *sine qua non* of all handiwork.

Many of the difficulties in the way of a proper understanding of this kind of drawing would be removed and better results obtained in teaching, if at the outset the simple principles were thoroughly grasped, first by the teacher and secondly, through him, by the pupil.

All objects have three dimensions, a length, a breadth and a thickness; hence, for the purpose of our drawing we should place ourselves in the three different positions relative to the object, that will show us the true value of each of these dimensions.

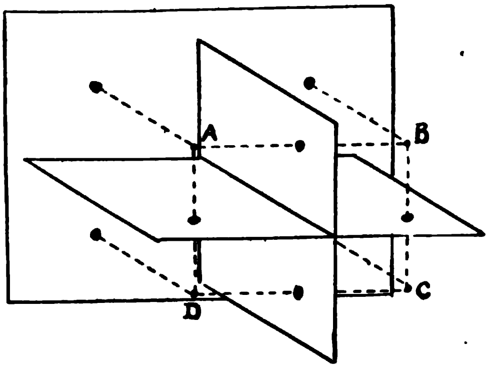

Fig 1

To illustrate, let the diagram, Fig. 1, represent space subdivided by a horizontal and two vertical planes, each at right angles to the other two; call the first division (A), the first angle of space; (B), the second angle; (C), the third angle, and (D) the fourth angle. These planes being supposed to extend indefinitely, it will be easily seen that all objects must occupy one or the other of these angles, or can be placed in any one of them, and can have a view projected on each of the three as the point A, B, C or D, is projected on each. Any set of these four groups gives us the Mechanical Drawing; but, for ease in understanding and simplicity in working, the third angle has been generally adopted as the one in which should be placed the object of which the drawing is to be made.

Let us then consider this angle apart from the others. Turning it so that we may see its three planes, it appears as in Fig. 2, the block placed within representing the object to be drawn. Looking down through the horizontal plane we see the form of the top, and, tracing it on this plane, obtain the top view; similarly from the front, a front view, and from the side, a side view, thus getting the three principal views.

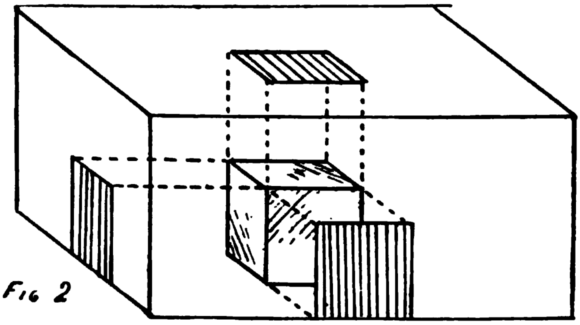

Fig. 2

In order that from one position we may see these three views, it is necessary to revolve two of them into the plane of the third. Assuming the horizontal and side planes hinged to the front, we revolve them upward and forward, respectively, so that they occupy the position shown in Fig. 3, which is the arrangement the views would occupy in a Mechanical Drawing. And the reason for each position is now evident.

These planes having been revolved about their front edge, the bottom line of the top view and the right hand line of the side view represent the front edges of their respective views. Another fact is that similar points of the front and side views are on the same horizontal line; and similar points on the front and top view are on the same vertical line. These facts become important aids in the drawing of one view from another.

To make a mechanical drawing, the object should be placed in its natural position, and so that at least one of its principal faces may be parallel with one of the picture planes. This principal face, supposing it to be the front, is then drawn. Points of this view that are visible on the side view are transferred across the paper to the position to be occupied by the side view, which view is then completed. Returning to the front view, those points that are visible on the top view are transferred vertically upward to the position of the top view, which is then completed. Similarly, had the side or top view been the principal one, that would have been drawn first and the points transferred across or down from that to the other views. In this way one view is partly obtained from the other by a method which not merely saves time and labor, but also tends more to accuracy.

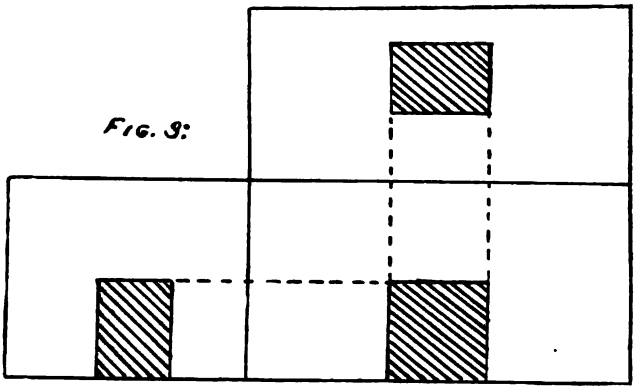

FIG. 9:

The test of the finished drawing is adequacy. Does it give all the necessary information? Could a workman from the study of the drawing alone accurately construct the object? A perfect drawing should give all of that information, but no more, for more than that means that it somewhere repeats itself, and generally repetition is unnecessary. In practical work in shops, this rule is adhered to, but in studying it is often advisable to "overdraw" an object in order that all methods may be perfectly understood.

Mechanical drawing, as its name implies, is to a great degree mechanical; there is not much room for variation or originality. And it seems that because of this fact one generally finds in class-work that it is too mechanically made; there has been too much dictation, too much of the teacher and not enough of the pupil is represented in the work; it shows practically no individuality, none of the pupils' own expression. Instead of the teacher's planning all, leave to the pupils' judgment such things as they are capable of doing. Let each pupil measure the various dimensions of the object; let him decide where to place the title and what size type is most fitting; let him plan the placing of the views on the paper; let him show himself as far as possible through his work.

Naturally, this demand for individuality brings forth the demand that the standard of the class as a whole should be superior, and hence the query: How may the class standard be raised?

This can be aided, *First*—By the reading and study of various drawings of familiar objects which the child sees about him; or even the general features of more complicated structures, as plans of buildings, ships, bridges, etc., might be shown from the drawings; of course, the minor details of these would tend to confuse and should be omitted.

Second—By hanging about the classroom the best work of previous classes, not, however, drawings of the same object as the class may be working on. And right here it may be emphasized that no finished drawing of the object should be seen by the class until they themselves have completed it. This study of the work of former classes is undoubtedly a great help, for a child is more easily led to attempt to equal the work of another child than it is to attempt to equal that of an adult.

Third—By class criticism; this does not mean the exhibition of poor specimens only. Let all qualities be shown, let the class tell where the defects lie and how they should be corrected. Such criticism by the pupils will do more good than an equal amount by the teacher, and it has the added advantage of showing each scholar how nearly he has attained to the standard of his fellows.

Let us now take the Book Rack of the 7B Grade, and follow out the making of its mechanical drawing.

The derivation of the three views might be presented by means of three panes of glass supported so as to form a "third angle," and the object, the Rack, placed under them. Now, if each child is permitted actually to look through these at the object, what each view looks like will be more clearly fixed in his mind than by any other means. Revolving these plates the class will readily see the position each view would occupy; and the facts stated above—that the front and end views are on the same horizontal line, and the front and top views are on the same vertical line—can be easily brought out. With this explanation the first sketch of the Rack can be made.

By questioning we should next seek to bring out the purpose of the model, and see how well it serves its purpose, noting the function of each part and the necessity for each part. Answers to such questions as the following might be profitably sought: Are the ends properly fitted to withstand the lateral push we have found will be exerted against them? How should the grain of the wood be placed to give the greatest strength to the material? Is the projection of the bottom beyond the ends necessary, and if so how much of it is necessary?

After measuring a number of books and obtaining an average size for a book, and after drawing from the pupils the facts, that the width of the rack is determined by the average length of our books, the height of the ends by the width of these books, and the length by the number of books we wish it to hold, each pupil would then be ready to design for his own books the size of rack to hold them, and to make a sketch of it to these dimensions.

We can now consider the structural beauty of our Rack. We must first decide where we can legitimately modify it, and we soon decide that the ends are the only proper place. Our aim must be so to alter their form that while adding to the appearance we shall not detract from the usefulness of the model. And right here might be emphasized the importance of simplicity. So many fail to realize the superiority of a simple line or curve, well made, over a more complex one.

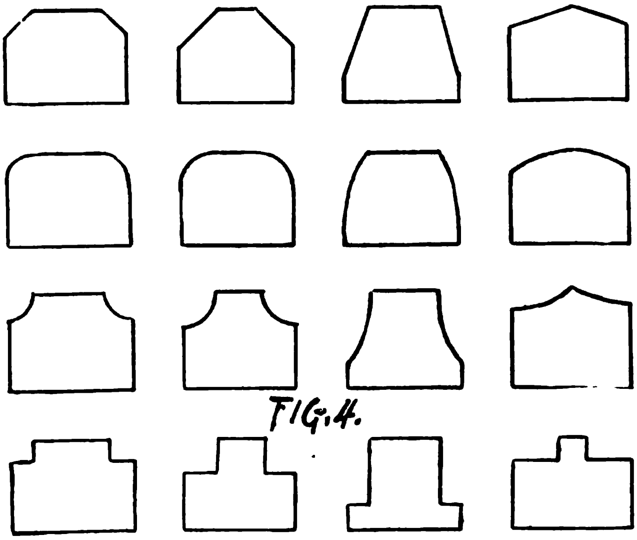

FIG.4.

Most modifications of a rectangular form, as in this case, may be reduced to, perhaps, four or five simple types, as for example, those shown in Fig. 4. These, with the many which may be made by combining two or more of these together with the possibility of modifying the straight lines into curves, will lend a variety and give plenty of room for individuality. These type forms cut out of cardboard should be presented to the class, and each pupil could then combine or modify them, producing three or four new forms, the best of which might be chosen. Of this a full-sized drawing is made, which is to be followed in the construction of the model.

The mechanical drawing of this individually dimensioned and modified model is now made accurately to scale. By measuring our paper and determining the space necessary for the three views, the class can decide on the proper scale to be used; and each pupil having decided on the placing of the group of views, how high or how low on the paper, could now draw the front view in correct position. By dashed extension lines transfer the similar points across for the end view, which is then drawn; the similar points on the front and top views are then extended up for the top view, and the drawing completed. A templet of the shape of the end having been made to scale, this is now applied to the end view and traced on the drawing, the lightly drawn rectangle of the unmodified end being now cleaned off. The finished drawing is now dimensioned, using for this purpose a short-dashed line, and placing it preferably between the views; the figures are to be placed so they may be read from the bottom on horizontal lines, and from the right hand edge on the vertical lines.

In the printing some freedom should be allowed regarding the size of type and the position of the title. But do not let the printing be the marring element in a well-made drawing. Of the many forms of letters that may be used those shown on the sheet prepared for use in the schools can at all times be used with fitness and with a surety of harmony if well made.

In closing, it might be well to repeat that the goal to which the Mechanical Drawing leads is the finished object; the former being merely a means to the attainment of the latter. And thus it may be seen that, however carefully the lines may be drawn, however well placed may be the views, or however neatly the type may be made, all is worth naught if the drawing fails to give the information necessary for the construction of the object.

Twenty Introductory Lessons in Elementary Algebra with Original Aids and Devices.*

BY ARTHUR HAAS, Instructor, De Witt Clinton High School, New York City.

LESSON I. THE GENERAL NUMBER.

THE teacher should be provided with a piece of elastic about 5 inches long, a piece of colored string about 7 inches long, and a piece of white string about 6 inches long. Holding the colored string extended, he asks the class to guess its length. One pupil is permitted to verify the guess with a ruler. Repeat this with white string.

Question. Does the length vary ?

Now holding the elastic and continually changing its length, ask the class how long it is.

Question. Could it be as long as the white string? as the colored string? How long would an elastic be that was stretched lengthwise around a book 5″ long, 3″ wide, 1″ thick? If it were stretched cross-wise ? What would be the advantage of a rubber band that could be stretched indefinitely over pieces of cord ? (It would fit any parcel.)

The elastic is described as a varying length, the strings as constant lengths.

Definition I. A *special number* or *constant*, is a word or symbol, which when prefixed to a unit of measure gives us an unchangeable or definite quantity; e. g., Two, 3, IV., ½, .03, $.\dot{1}4285\dot{7}$ (the repetend), π, etc.

Definition II. A *general number* or variable is a word or symbol which may stand for any special number at any one time.

E. g.: Few, several, many some. The Egyptians used the figure "$\triangle$," which represented a heap of sand (called "haw").

In algebra we use letters of the alphabet to symbolize variables or general numbers.

Definition III. Algebra is that branch of pure mathematics which treats of the uses, properties and relations of general numbers—as well as of many special numbers not considered in elementary arithmetic.†

Question. A man has a few cents; how many cents do you think he has ? The word "few" presents a definite number picture to the child, and when pressed for an answer he will say 3 or 4. Now ask, "A man has 'x' cents; of how many cents do you think ? " Here the conception should be just the same—3 or 4 or

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* Copyright, 1904, by Arthur Haas.

† This refers to surds, imaginaries and complex numbers.

5. The 'x' is a real number and should convey a number concept to the mind.

This is *the most important lesson* of the series, and problems involving simple equations having for their object the finding of special values for general numbers should be given throughout the course.

In the beginning these problems should involve only *one unknown* number—not simply that only one general number must be used, but that no two relations of that number should represent different unknowns.

E. g.: A poor example for a child to begin on would be: "Arthur has twice as much money as Benjamin. The sum of their coins is 21 cents; how much has each?" This is bad because "x" represents one unknown and "$2x$" the other.

A better example would be: A dishonest grocer used a balance in which one scale-pan weighed 3 oz. more than the other. If he placed a 2 lb. wt., a 1 lb. wt. and a ½ lb. weight in the lighter side, how much sugar would balance them?

Let $x =$ number of oz. of sugar;
then $x + 3 = 32 + 16 + 8$,
etc.

Here only one unknown quantity is used and "x" represents the number of units (viz., oz.).

LESSON II. THE NEGATIVE NUMBER.

A balloon, when collapsed, with its basket weighs 300 lbs. in air. Hydrogen gas is pumped into it. The weight decreased. Suppose the "lifting" power of the hydrogen were 200 lbs., how much would the balloon weigh then? Suppose it could lift 300 lbs. (in air), what would the balloon weigh then? Suppose it could lift 350 lbs., what would the balloon weigh?

When we *added* hydrogen to the weight of the balloon, what was the effect? (It made the balloon lighter.)

When, by adding a number to another number, the sum becomes zero, we say that the one number *negatives* the other. In algebra it is customary to call the arithmetical or natural numbers, positive, and those that destroy their value negative numbers. Thus the weight of the collapsed balloon would be a positive number of pounds—the raising power of the gas a negative number of pounds.*

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* The common analogy of tradesmen's bills and money may here be brought into play further to impress the notion that a negative number is a *real* thing; (i. e., a man might owe more than he has).

The negative numbers in the ordinary relations of life represent our obligations *to others*, the positive numbers represent obligations to us from others.

Definition IV. A negative number is such a one that, when added to the corresponding positive number, the sum is zero. It is *always* preceded by a minus sign.*

Both general and special numbers may be either positive or negative. When no sign is expressed before a single number the plus sign is understood.

Exercises. (A). What kind of numbers are

-7 (a negative special number)
$+\sqrt{2}$ (a positive special number)
x (a positive general number)
$+5$, $-n$, $-\sqrt{x}$, $-y$, etc.?

(B) What numbers must be added to -5 to make it equal zero; to 3; to x; to $\sqrt{y}$; to $-z$, etc.?

Numbers whose sum is zero may be called *conjugates* of each other,

What is the sum of 8 and its conjugate?

Of any pair of conjugates?

Of 8 and -7? What part of the 8 is the conjugate of -7?

What is left when these two are made equal to zero and dropped?

Of -6 and 4? What part of -6 is the conjugate of the 4? What is left?

Any two conjugates may be added to an algebraic expression without altering its value.

LESSON III. THE ALGEBRAIC TERM.

Write on the board "3 dozen," "5 pair," "5 groups of six each," "x couples," "many gross," "7 quarters."

What is meant by each phrase?

What sign is understood between 3 and dozen? Between 5 and pair? Between x and couples?

In algebra when no sign is expressed between two numbers, whether general or special, the multiplication sign is understood and each number becomes a factor of the term.

Definition V. An Algebraic Term is a product of factors preceded by a plus or a minus sign. The multiplication may be expressed or understood; the plus sign before the product is sometimes understood. (e. g., $5 \times x \times y \times y$, or $5xyy$, or $5xy^2$ are algebraic terms.)

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* The minus sign does not make it a negative number any more than a business sign makes the business. The sign merely indicates the nature of the quantity. Hence to define a negative number as one that is preceded by a minus sign is mistaking the symbol for the thing signified.

An algebraic term is always composed of four parts, all of which are always present either expressed or understood. They are the sign, coefficient, letters, and exponents.

The sign has already been discussed under positive and negative numbers.

Definition VI. The sign is that part of an algebraic term which shows whether the term is positive or negative.

When no sign is expressed the plus sign is understood.

Definition VII. The coefficient is usually a numeral and shows how often the succeeding general numbers have been taken as addends.

When no coefficient is expressed the coefficient "one" is understood.

$$3x \text{ means } x + x + x. \quad -4y \text{ means } -y - y - y - y.$$

Definition VIII. The general numbers are the literal factors (letters) and are almost always expressed.†

Definition IX. The exponents are small numbers written above and to the right of the letters they affect, to show how often these are taken as factors.

$$\text{thus } x^3 = x \times x \times x. \quad 3x^2 = xx + xx + xx.$$

When no exponent is expressed, the number one is understood.

Every algebraic term may be written without the use of numerals, and the following is suggested as an excellent exercise to impress this meaning of the coefficient and exponent upon a child's mind.

It may be divided into two parts; the first requires the pupil to give the various parts of a term, e. g., of $5x^2y$, the sign is +, understood; the coefficient is 5; the letters are x and y; the exponents are 2 and 1 (understood), respectively.

The second part would require the pupil to express this term without the use of special numbers. Of course it equals

$$xxy + xxy + xxy + xxy + xxy.$$

The following examples are given in the order of difficulty:

$$3x, \ -2y^2, \ 5ax, \ -3a^2b, \ m, \ -3ab^2c^3, \ a^3b^2c, \text{ etc.}$$

---

† Later the children will learn that *literal factors* with the zero exponent may also be understood.

A full period spent upon such a drill will be found to have a very beneficial effect upon subsequent work. It clears the ground for such conceptions as similar terms, algebraic expressions, and addition of terms.

LESSON IV. ALGEBRAIC EXPRESSIONS; SIMILAR TERMS.

Here on my desk are 4 books, 6 crayons, 2 inkwells, 3 more crayons, 5 pencils, 2 books, 3 pencils, 7 crayons, etc. Can I reduce the number of items in any way? How? (By combining the two piles of books, the 3 heaps of chalk, etc.) Why can not I combine the books and inkwell into one item? (They are of different denominations.)

On the board I write 3x, 5y, 2z, 3a, 2y, 4z. What is the sign of each of these terms? (Plus.) Suppose I write them next each other with their signs expressed and leave out the commas,

thus, $3x + 5y + 2z + 3a + 2y + 4z.$

How many terms are there? (6.) Can I reduce this number? How? (By combining the x's and the z's.) These are called *similar* terms. Could I combine $+5z$ and $-3z$? (Cf. end of Lesson II.) Are these then similar terms?

Do the signs affect similarity ? Does the coefficient ? Do the letters ?

Is 5ax similar to 3a? Why?

Is $3x^2$ similar to 2x? Why?

Does the exponent effect similarity?

Definition X. Similar terms are those having the same letters, each with the same exponent.

Exercise. Find the similar terms in the following list, $3x$, $2y$, $-2a$, $4a^2$, $3a^2b$, $2ab^2$, $5y$, $-2ab^2$, $3a^2$, $2x$, $-7y$, $-7a^2$, $-2a^2b$, etc.

When several algebraic terms are placed next each other with their signs expressed we have what is called an algebraic expression. Hence—

Definition XI. An algebraic expression is one or more algebraic terms placed next each other with their signs expressed, (excepting the first if positive,) whose value is represented by their sum.

The Lesson may include the definitions of Monomial, Binomial, Trinomial and Polynomial, with illustrative exercises.

Exercise. What is the value of the following expressions, if $a = 3$, $b = 5$, $c = 1$, $d = 0$, $x = 9$:

$$3a^2 - 2bx + adx^2 + 3b^2 - 7c + 5d^2$$
$$5abc + 2a^2dx - 3b^2c + 5a^2b, \text{ etc.?}$$

Exercise. Reduce the following to polynomials of less terms.

Here should be prepared a column of polynomials containing similar terms.

LESSON V. ADDITION.

What is an algebraic expression? (Def. XI.) Then in order to find the sum of a number of monomials, we need only prefix the plus signs where they are understood and place the terms next each other. The resulting expression will be their sum by the very definition. This expression can sometimes be reduced by combining similar terms.

Add $2a, -3b, 4c, 3xy$,
Answer: $2a - 3b + 4c + 3xy$.

Write out $3ab$, $2ab$ and $4ab$ on the board without the use of numerals.

$$ab + ab + ab,\ ab + ab,\ ab + ab + ab + ab.$$

How many ab's? (9 ab's). How else might we obtain the number 9 from the original addends? (By adding coefficients of ab). Exercise in addition of similar positive monomials.

Write $-3xy$, $-2xy$, $-4xy$ on the board without the use of numerals. ($-xy - xy - xy,\ -xy - xy,\ -xy - xy - xy - xy$).

How many minus xy's? How could we obtain this coefficient from the original addends? Exercise in addition of similar negative monomials.

Write $3ax$ and $-2ax$ on the board with the use of numerals.

Answer: ($ax + ax + ax,\ -ax - ax$.)

How many pairs of conjugates? (Two pairs.) What is their value? What is left over. ($+ ax$).

Again, write $3ax$ and $-4ax$ on board without the use of numerals.

Answer: ($ax + ax + ax,\ -ax - ax - ax - ax$).

How many pairs of conjugates? (Three pairs.) What is left over? ($- ax$.)

Let the pupil generalize the above two examples into finding a rule for finding the sign and coefficient of the sum when the signs of two addends differ. (The sign of the sum will be the sign of that addend which has the greater coefficient. The coefficient of the sum will be the difference of the coefficients).

Exercise in addition of two similar terms whose signs differ.

Enlarging upon the method above suggested, develop the following:

Rule for the addition of similar monomials; add the coefficients of positive terms; then add the coefficients of the negative terms; the sign of the answer will be like the larger of these two sums, and the coefficient of the answer will be the difference between them.

Exercise in addition of similar monomials with unlike signs.

Suppose it is required to add

$$3ax,\ 2by,\ -3cz,\ 4by,\ -cz,\ -5by,\ 2cz.$$

We may of course place these monomials next each other and reduce the resulting expression as indicated in preceding pages, but it is easy to show that it would be simpler to arrange these terms in columns with the similar ones under each other; thus,

$$\begin{array}{rrr} 3ax & +2by & -3cz \\ & +4by & -cz \\ & -5by & +2cz \end{array}$$

Then adding each column of similar terms, the resulting expression $(3ax + by - 2cz)$ would be same as the reduced expression derived in the old way.

LESSON VI. ADDITION OF POLYNOMIALS.

We might place the polynomial addends next each other with all signs expressed and then combine similar terms; but it is readily seen that it is easier here, (as suggested in the last paragraph), to arrange similar terms under each other directly and add. Here should follow a long drill on addition, examples for which are to be found in any text-book. This should prove a good review lesson and, if previous work is understood, it should prove the easiest of the series.

LESSON VII. SUBTRACTION.

Analogy. If a man receive in the same mail an unexpected gift of $5.00 and an unexpected bill for $5.00, will he be any richer than he thought himself before? If we add a pair of conjugates to any expression, do we increase or diminish it?

Rule. We may add a pair of conjugates to any algebraic expression without altering its value.

Have a box of white chalk on desk, ask the pupil to take away a piece of red chalk. Cannot. Why not? It isn't there. In order to take it away it must be there.

Ask boy to take x from y. Cannot; it is not there. There must be an x in the minuend before we can take it away. How can we get an x into the expression without altering its value?

Why, add the x and its conjugate. The minuend now becomes $y+x-x$. Take away the x and what is left? $y-x$.

From 4x take $-9x$. Are there any $-x$'s in minuend? No. How can we get nine$-x$'s in the minuend without altering its value? Add $-9x$ and its conjugate.

The minuend now becomes $4x+9x-9x$. Now taking away the $-9x$, we have left $4x+9x=13x$.

Give several similar easy examples and insist upon the analysis of the subtraction; i. e., the addition of a pair of conjugates (of which one is the subtrahend) to the minuend, followed by the elision of the subtrahend itself.

Then *and not before* induce and state the—

Rule. Subtraction in algebra is equivalent to the *addition* of the *minuend* to the conjugate of the subtrahend.

In other words change the sign of the subtrahend and add.

It requires very little ingenuity to show that this rule will hold for polynomials as well as for monomials. (E. g.: Ask boy to remove 3 red and 2 blue crayons from a heap of white. They must be present to be removed. So with $3x-2y$; if these are to be taken from 2z, what must be present? Minuend must become $2z+3x-2y-3x+2y$. Taking the subtrahend away is equivalent to adding $-3x+2y$ to the original minuend (2z).

[The next seven lessons will take up the questions of Parentheses, Equations, Multiplication and Division.—EDITOR.]

English in the Eighth Year.

By Edward Randall Maguire, P. S. No. 55, Manhattan.

IN this sketch of the work in English in the eighth year of the course, I purpose making a rapid summary of points that have occurred to me in my experience. I do not pose as an authority or an expert; I write only in the hope that some teacher of less experience may gain something from my own.

Before entering upon the discussion, a word in regard to class management. I am very much in favor of the "group" method of teaching. In as many subjects as possible, I divide the class into two groups, one more advanced than the other. This first group is expected to do more and better work than the second, which is composed of the duller members of the class; and this expectation spurs them on to greater effort. My reasons for favoring the group system are:

1. It gives me a smaller number to look after at one time, insuring a greater amount of individual attention.
2. It throws the other group upon their own resources in the preparation of their lessons (study period).
3. It gives short periods and frequent change of activity, hence closer attention to the lesson.

This group plan is very useful in Composition, ' Memorizing," Arithmetic, History, and Reading. It is especially useful in Composition as the teacher can give personal attention to every pupil in the group, making corrections, criticisms and suggestions upon each pupil's work privately and quietly while the writing is in progress. This is much better than the method of taking a batch of compositions home and chopping them to pieces. Prevention is better than cure in this case. In teaching composition we must constantly bear in mind the two-fold aspect of the subject. Composition is the expression of thought, through language. These two are fundamental: first, the thought, and second its expression; that is, the idea, and its arrangement in sentences and paragraphs, —the content and the form—the matter and the manner. It is obvious that if undue stress be placed upon either of these the other must suffer. If we select as one subject a lesson in science or nature study, if we make the mistake of using the child's composition as a test of his knowledge in other subjects (overdone correlation is worse than none), we are pretty sure to fail. The child's mind will be occupied with the matter to the exclusion of style; you will get a written recitation more or less perfect, but not a composition. The converse is just as bad. We must not let the pupil think that style is everything. We must try to strike the proper balance. Let the matter be something worth writing about, above all let it be self-expressive, and the style fitted to the subject—then we will be on the right road.

The appreciative reading naturally goes hand in hand with the work in composition. Their reading of masterpieces brings the pupils into constant contact with the writings of the masters, and such reading is bound to influence their style. Why does anybody read a literary masterpiece ? Simply, for the pleasure that is derived from the reading. Superintendent Maxwell has somewhere emphasized the fact that an essay is a work of art, and it fulfills its highest duty if it does give pleasure to the reader. Here is the point where we can take advantage of our knowledge of the youthful mind by appealing to the natural desire of pupils to imitate what they like—calling their attention to the proper models, they will be only too glad to imitate them, whether the models be of description, narration or exposition. If we can stir in the pupil the innate but latent artistic sense which is in all of us—I mean the desire to produce something which will please others (and in the present course of study we are helped in this by the course in manual training)—more than half the battle is won. If we can make him believe that he can write something worth reading, and that somebody will take pleasure in reading it; that the best essays will be read in the class literary society or printed in the school paper—in short, that he is doing something worth doing and not simply covering two sheets of paper for the teacher to mark with red ink; if we can make him see that what he is making is a work of art, and what is more, *his* work, something that no human being has ever done before in exactly the same way, an original piece of work such as he cannot do in any other direction; if we can do these things we have gone far to enlist his interest in the work and the "preparation" of one lesson is completed.

My first lesson is taken up with the preparation outlined above. I pick out an interesting passage in the appreciative reading, or from any book in which the pupils have shown a particular interest and pleasure; if possible, a pen picture of one of the characters. We read it together to get a mental image more or less perfect in every mind (and it is surprising to note how many widely differing pictures you will find in the minds of a group of 20 pupils) before beginning to analyze the description. The next step is the discovery that the author has made more than a haphazard arrangement of his ideas—that he did not wander over his subject, but seems to have had some sort of plan about his work. We then proceed to make a blackboard *plan* of the model, giving the title, the *topic* sentence and the little subheadings for the other sentences. This will take another lesson. In the next, we again take up this plan and reproduce the model paragraph from it as well as we can. It is important that during this lesson the room should be absolutely quiet; no talking by pupils or by teacher, and as little moving about the room as possible; nothing to distract attention from the real work.

Two weeks will probably have been spent in getting this first composition from every pupil. The fifth lesson will be taken up with criticism and correction. It is well to bear in mind that this lesson should possess *unity*. Do not attempt to correct *all* the errors in every composition; do not look for errors in spelling and punctuation and lack of unity and lack of clearness and what not all at once. Let each lesson have its own aim. For example, make this lesson a lesson in *unity*, let the next lesson be one on *clearness*, the next on *coherence*, etc., finally going over the composition in search of errors in spelling and punctuation. If these criticisms are self-criticisms, each pupil searching for his own errors—drawing a line through words or phrases that need changing and writing the better form between the lines, the paper at the end of the month will present a much battered appearance, but it will be all the greater satisfaction to the pupil and teacher to compare it with the final draft which will now be made on new paper. Then the composition can be filed away for future reference, the battle-scarred paper on top of the clean one. A similar plan of work can be used in narration and exposition: 1. study of a model; 2. reproduction of the model; 3. original essays. A list of words which have been misspelled in writing these compositions should be attached to the package and also added to the list of spelling words for the grades. The title-page of the package should indicate the following points:

1. *Subject. Grade. Date.*
2. *What preparation made for the exercise.*
3. *Outlines used.*
4. *How work was corrected; i. e., by pupils or teacher, or both.*
5. *The outcome.* { *general.* / *notes on special individuals.* }

This is Superintendent Edson's plan for the title-page. In discussing the appreciative reading we can hardly avoid the question of the study of literature—that bone of contention among so many thoughtful teachers. I do not feel capable of discussing the matter of the teaching of literature in the elementary school or of saying whether literature can be "taught" or not. My purpose is to give my experience in teaching "critical," or better, "appreciative" reading.

Whether the masterpiece chosen be one of those recommended in the syllabus or not, it seems to me important that it shall be one serious and noble in subject, with fitting style, and, at the same time, simple in language and in plot. It is very discouraging to find that the poem one has chosen necessitates repeated delays for the explanation and pronunciation of difficult words; or that the plot is too involved. I found the first difficulty in the reading of "Evangeline" and the second will have to be met by the teacher whose class reads the "Merchant of Venice."

The syllabus can be followed to advantage in this subject; that is, a first reading by teacher and class; second reading for more careful treatment of important parts; third reading for effective rendering of attractive parts. The danger to be avoided in the appreciative reading is that in attempting to be thorough the teacher will grind along page after page, making a study of every new word, every allusion, every figure of speech, analyzing, parsing and entering into philological discussions—in short dissecting the work under the microscope with the inevitable result of devitalizing the whole thing. I would rather err in the other direction. Let the pupils read the work for the pleasure there is in it. Remember that our purpose in teaching literature is not to develop amateur critics with minds focussed upon the number of figures of speech or the etymological structure of the author's words; but if we can send our pupils into the world with an appreciation of what is good and pure and beautiful in literature, with a feeling that they have already tasted of the good things, and, above all, with a desire to read more of the same kind; if we find them in the libraries searching for more books by the author whose work they read with us; if, in short, the result of our labor has been to plant in them a love of good reading for its own sake—our labor has not been in vain. Mr. Percival Chubb brings this point out well in his "Teaching of English." "Literature is a thing not only of the eye but of the spirit; its vital interests are not in the scene, landscape, or picture of the heroes, but in *deeds, feeling, character.*" And again, "The prime objects of the work are: the grasp of the thought, the appreciation of the story, the experiencing of the emotion, i, e., the enrichment of the pupil's mind."

Grammar in the eighth year correlates very closely with composition and reading. "Analysis used to elucidate obscure or complex constructions" is a practical use for grammar which helps much in gaining the attention of a class to this so-called "formal" subject, though of course the teacher must not forget that frequent review of the elements is the price of this freedom.

"The manner of using a text-book as a book of reference should be systematically taught." The fact that a book has an index is a surprising piece of information to some school boys—the proper use of that index is the next thing for them to learn. Studying by topics with the help of the index is splendid practice in the upper grades in any lesson. "The syllabus on Grammar is suggestive enough and may be closely followed to advantage. In the analysis of sentences we should insist upon coherent, logical statements from each pupil as he recites, a statement supported by reasons. We must make use of the fact that Grammar is "elementary logic," and at the same time drill the pupil in oral composition. Have every boy's recitation take the form of complete, connected sentences; do not allow slovenliness in this matter. Bring out the difference, if you like, between grammar and composition. The one is a science, the other an art. The pupil can use his knowledge of grammar to aid him in the art of composition, by testing his work in the light of his knowledge of the science of grammar. His grammar will aid him in giving clearness by showing him where to place modifiers, and in giving force by condensing clauses into phrases, etc. This correlation of grammar and composition is necessary and important.

The memorizing of prose and poetry is a matter demanding some attention. We are so pressed for time we must all do the best we can, not always what we ought to do, and the temptation to save time by giving out as the lesson for to-morrow "study four more lines from the 'Deserted Village'" is so strong that we are apt to forget that we may be getting quantity at the expense of quality. I think it is well to go a little slowly here. You will need to excite interest of your pupils in this lesson. I found it a help to tell the class that I would recite more lines than they did, and then I tried to do it in such a way as to bring out the beauty and meaning of the lines—appealing implicitly to imitation again. It is better to do this than to let the class see in you the personification of relentless fate overtaking the wretched lazy ones who have failed to prepare themselves, instead of a leader and inspirer. Let the teacher show himself a student as well as an examiner and his pupils will have faith in him as a teacher. Let him "allure to brighter worlds and lead the way," and his followers will be numerous.

It seems to me that the purpose of this memorizing is to aid in a clearer appreciation of the music of the verse; to fill the mind with beautiful thoughts, beautifully expressed; to provide "touchstones," as Matthew Arnold calls them, for making comparative judgments upon unfamiliar works later on; and to provide valuable mental exercise. It is a mistake to have the pupils write the selection too often. Give as much opportunity as is possible to each pupil to recite orally, especially if the selection be in verse, so as to cultivate his sense of rhythm. Poetry needs oral interpretation to bring out the accord of sound and sense; lacking that accord it is not verse but metric prose. The training of the ear here is very important, though in regard to this matter a caution is necessary, Do not allow this reciting to degenerate into elocution. We are dealing now with art as such, and we must not lose sight of the fact that the great test of art is fitness; if we allow the speaker's rendering of the lines to attract attention to itself we are guilty of a most annoying breach of good taste. The oral rendition has for its purpose the conveying of the author's sense as rhythmically and musically as is fitting and no more. Fitness is the watch-word. In teaching spelling and the meaning of words, associate the two as much as possible. Avoid long lists of words; have them associated with their context. In testing the pupils' knowledge of spelling, it is a good plan to do it by means of a dictated paragraph, allowing no day to pass without its short exercise in dictation. The paragraph will, of course, have been prepared by the teacher. Practice in discrimination of synonyms may be had by dictating sentences, leaving the blank space for the insertion of the proper word by the pupil.

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2. The authors of these texts have neglected to preserve the continuity of the subject, and the interlocking relations between the propositions. The beginner thus sees the subject in the light of a fragmentary string of disconnected facts, and derives neither pleasure nor profit from its study. In short, the student fails to catch the spirit of the subject matter.

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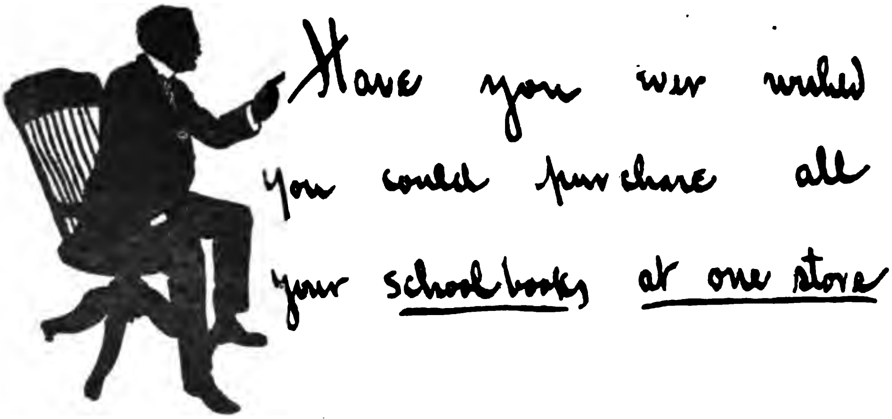

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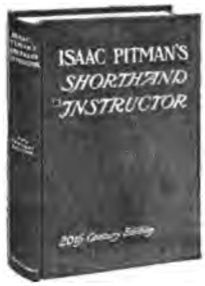

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New York Teachers' Monographs

PLANS AND DETAILS OF GRADE WORK

JUNE 1904

On Teaching Arithmetic.

Dr. James Lee, District Superintendent, New York City.

IT goes without saying that a clear and comprehensive understanding of the grade, the ground to be covered, the problems to present, and the methods of preparation and presentation should be definitely fixed in the teacher's mind. This can be accomplished only by carefully and systematically laying out the work of the term, preparing the problems in advance. I consider it a mistake for a teacher not to know how his grade articulates with the grades above and below. He should have distinct ideas of the whole scheme. A clear understanding on this point will save much of the teacher's time and energy and will certainly redound to the benefit of the pupils.

The problems for each day should be so prepared that there will be a progression in the difficulties—and so for the term. There is a great waste of time in blindly following the problems laid down in the text books. I do not know any text book made to fit the Course of Study. Cull from them only as occasion demands. Use your own ingenuity.

To my mind, the most grevious mistake in teaching Arithmetic is ignoring Oral (Mental) Arithmetic, or in teaching it indifferently. Some years ago, the pendulum swung too far towards this side of the subject, and, as usual, when it came back the matter almost disappeared from the work of the class room. A failure to teach the simple process of analysis which runs through the whole science is sure to lead to poor results so far as giving intellectual power to the pupils is concerned. By this process, I mean the reasoning by which we compare numbers through their relation to the *unit*. If we assume that all numbers are so many times the simple thing, then they bear a definite relation to the unit which is immediately apprehended. This may be illustrated by the problem 5 times a number is 30; what is 6 times the number? Or, if ⅝ of a number is 40, what is ¾ of the number? Here we have synthesis as well as analysis as we pass from the *unit* to a *number*.

I believe that the best results in Arithmetic would be obtained if Oral Arithmetic were systematically taught from rationally prepared problems in connection with the daily written work of each grade. The mental condition of the children would then be in harmony with the object of the teacher. There would be a closer personal motive to which the teacher could appeal. There would be the least possible waste of energy by teacher and pupil. I agree entirely with the experience which proclaims that compared with 'written' arithmetic alone, Oral Arithmetic, if systematically taught, will produce at least twice the *knowledge* and twice the *power* in a given time.

The exercise in Oral Arithmetic naturally precedes the written work. Indeed, the problems should be preparatory to the written. To be master of the situation, no teacher should depend upon chance in giving out the problems.

In oral work, and for that matter, in written work as well, when the imagination has been cultivated, intuition will often be the guide by which children will secure results. Children often perceive relations when we least expect them to do so. It is the result of insistence on the part of the teacher of analytic work. For example, the child who explains that if 3 apples cost 10 cents, a dozen will cost 4 times 3 cents, has discovered that any number may be used as the unit of price or quantity, and as such is *one*.

Remember, then, that the object of Oral Arithmetic should be to secure discipline in analysis—not always shown by an elaborate explanation, to give a logical training, to insure attention, and to cultivate habits of readiness and accuracy in thought and language.

It is hardly necessary to insist that in the lower grades, the teacher should work with objects until such time as pupils have grasped the idea of number. How soon this time comes, depends udon both class and teacher.

It is a mistake to try to teach children the true idea of a fraction without objective work. This can be done conveniently by drawings on the blackboard, by paper folding or cutting, and various other devices. The fractions in the first three years can be taken up at any stage of the instruction and the knowledge of them should be gained by dividing some whole object into equal parts, such as a line, square, pint, quart. Whenever possible, these devices should be allowed to remain in sight of the pupils and should be referred to whenever the objective is necessary to make clear the symbolic.

The symbolic should be introduced casually, by short cuts, so to speak. It is a mistake to hurry to the symbolic treatment of problems. It would be a mistake, however, not to encourage children to use the symbols, or to exercise their ingenuity in devices to shorten or illustrate their work. It would be a mistake, also, not to recognize that children possess an ability to do, far in excess of their ability to tell about what they do. When asked "Why?", they often say "Because." Here the intelligent teacher brings out the expression.

Begin as soon as possible to cultivate the imagination of the children by getting a comparison of magnitudes and quantities without having either before them.

The work in denominate numbers should be taught concurrently with the work in simple numbers. When the work is planned and presented in this way, the interest of the children will be better maintained and their progress more certainly assured.

Whenever possible, in treating denominate numbers, the actual units should be shown. The bushel, the gallon, for example, can be shown. It is easier to show the capacity of the former in cubic inches by making a paper box 12"x12"x15" and the latter, by one 6"x6"x6½". The applications of the square and cubic measures are very frequently not clearly understood. Repeated objective illustration should be used. It is remarkable how few pupils appreciate what an acre is. Yet they work in a mechanical way, problems containing this and other denominations with a high degree of accuracy. Any block between the numbered streets can be taken to illustrate. From curb to curb, the measurement is 209 feet for all practical purposes. Run lines back on each side .209 feet, and connect these lines. A square is thus formed which contains nearly the number of square feet in an acre. Show from the table how to compute the number of square feet in an acre. Show also that the figure may be irregular in shape. The pupil should have been taught how to get from the table the number of square feet in an acre. A cubic yard should be laid off along the corner of the room, and boards kept so that it may be put together at a moment's notice.

Accuracy of statement and clear notions of expression should be insisted upon. For example, in percentage, pupils are often asked to write .06 or 6/100 as per cent. *It is per cent.* They should be taught that when they hear per cent. they should *think* hundredths, and when asked to write 6% it should appear .06 or 6/100. The character is simply a convenience. Whilst on this point it might be well to say that it is a mistake not to drill specially on the comparative value of per cents. For example, ask a class studying this subject to give in the form of common fractions 50%, 25%, ½%, ¼%, and note the results. In the first two cases the results will be excellent. See what happens to the rest. The per cents below 1% should receive more attention. Rote teaching of the terms, Base, Rate, etc., should be avoided.

Learn to vary the form of statement. Problems should always be dictated except in reviews or in drill exercises. Placing them on the blackboard takes away a large part of the interest, and is a strain on the eyes of the pupils. An opportunity to train the ear and to get rapidity is lost.

In constructing your problems, you should have recourse to the actual things and events of life, business, biographical dates, dates of celebrated inventions, discoveries, and the like. Obsolete forms and problems required neither by the Course of Study nor by modern business methods should be eschewed. For example, in Exchange, Proportion, and Interest. In Proportion, problems in mensuration and physics should be given a prominent place. In Interest, it is ridiculous to have the class work out problems in Compound Interest, when the practical method is to work by using the tables. Working by any other method is nothing short of an outrage.

In all grades, typical problems, worked out, should be preserved whenever possible on the blackboard or on large sheets of paper. For example,—

Reduce 2 yds. 1 ft. 9 in. to inches.

1 yard equals 3 feet.
2 yards equal 2 × 3 feet or 6 feet.
6 feet plus 1 foot equal 7 feet.
1 foot equals 12 inches.
7 feet equal 7 × 12 inches or 84 inches.
84 inches plus 9 inches equal 93 inches.
2 yds. 1 ft. 9 in. equal 93 inches.

Explanations containing "I add," "I subtract," etc., without any reason should be put down as the result of poor teaching. No mention of a rule should occur in an explanation, except, perhaps, in problems requiring geometrical demonstration.

When a class fails in a problem, give a few which they can solve and lead up to the difficulty. Frequently ask, "What does this mean?" Prepare and select problems in the order of their difficulty. Briefly, at times, require pupils to tell the meaning of the expression before a solution is attempted. Ask for an approximate answer, but do not dwell too long at this point.

Do not tire a problem to death. Get your class at work in your own grade at once. Review incidentally. Do not say, "They know nothing." The teacher above may say the same thing when the class leaves you.

Up to this point my remarks have been of a general character. Here I would like to be more specific and place myself in the position of stating to an individual teacher the method of conducting an exercise in Arithmetic. I would say:

(1) Let your problem be original.
(2) Get intense mental action.
(3) Use the blackboard extensively.
(4) Get accuracy and neatness before rapidity.
(5) Require brief, but definite and logical analysis.
(6) Avoid set rules

For the Oral Exercises. Paper and pencils are on the desks. The class being ready, after sufficient preparation and explanations, and the problems so selected that they can be given without reference to a book or paper, the teacher in a spirited manner gives the first exercise. At a given signal, all write their answers. Answer called for. Those *correct* stand and mark over or alongside "C." Wrong, "X." The teacher can keep eye in a general way over the class or can move around to watch those tempted to be dishonest. Then a brief explanation. So with others. Avoid: "Take pencils"—"Pencils down," and other unnecessary or fixed repetitions.

For the Written Exercises. Granted that the class is ready to do the work required, that is, the teacher has elicited through the oral work and necessary explanations, sufficient to justify testing the ability of the pupils to solve the problems selected, she now proceeds about as follows:

1st. Statement of the problem—briefly taken down by the pupils. I urge all teachers to see to it that their pupils learn to abbreviate the statements of the problem. There is no need to write the whole problem out.

2d. Rapid and neat solution—as few figures as possible, especially in familiar matter. As much should be done mentally as possible. The arrangement should show the method of reaching the results.

3d. Nothing but paper and pencil should be in the hand of the pupils. No rubbers, no rulers. The former encourage carelessness and the latter are noisy and disturbing. Apply freehand drawing.

4th. When about ten or twelve are finished, have a signal which means that there is left a minute or so, preferably less, for those unfinished. Then a second signal at the precise expiration of the time. Call for an answer. Those who are correct may stand; the pupils mark. The teacher moves around the room.

5th. A pupil or several of the pupils who are correct go to the board. Some one at his seat explains from his own work. He does not wait for the pupil or pupils who are at the board. Several may repeat the explanation whilst a problem is worked on the board.

6th. The teacher questions, draws out, emphasizes a point here and there, and gets the correct form or shows where work could have been abbreviated.

Other problems follow—the teacher always keeping in mind the importance of accuracy and rapidity and of fixing firmly in the minds of the pupils the matter under consideration.

Besides the mental work alluded to, there is rapid calculation. This is a spirited exercise in which the class need not be required to write the answers. In the formal oral arithmetic work, I believe that every pupil should be placed on record; hence I say, "Have all write their answers."

Problems for home work, if given at all, should be very carefully selected. They should not be long or involved, nor such as will take up much more than a half hour of the pupil's time.

The solution of the problems should be brief and with few, if any, complications. They should be selected to clinch the work of the class instruction. If taken from a text book, they should not be selected in order. Not more than three such problems should be give daily.

Nature Study.

By Dwight L. Bardwell, District Superintendent, Richmond.

Prof. L. H. Bailey of the college of agriculture in Cornell University is one of the pioneers in the work of nature study for elementary schools. A number of years ago in writing upon this subject, he used the following sentence: "He who thinks chiefly of his subject teaches science; he who thinks chiefly of his pupils teaches nature study." This distinction is very suggestive. I suppose that all thoughtful teachers would agree that the chief concern and thought of the teacher should always be not the subject but the pupil; but it certainly is true that in the subject of nature study the pupil should be pre-eminently the focus of thought and attention, and the special topic should under all circumstances be subordinated to the needs and possibilities of the child. This is fundamental.

I. Objects: As a corollary from the proposition just made it would appear evident that the work of nature study will not have for its object the giving of information, although information will be given. It is quite natural for the teacher to think of the amount of subject-matter which is to be covered during a given term and to make her plans accordingly. In nature study, however, the work as outlined in the course of study and as further explained in the syllabus, should be considered not so much as a certain amount of material to be covered as the opening up of a field for investigation. This investigation should go as far as circumstances will permit and no attempt should be made to go farther. The course of study and syllabus present an opportunity rather than a set and rigid standard. Having this in mind, the purposes of nature study in elementary schools, particularly in the primary grades, may be briefly summarized somewhat as follows:

1. *The expansion of the soul and the enlargement of the thought through an inculcation of a love for nature.* At first this may sound to some as visionary and impractical; on the contrary, it is the most practical and substantial thing which can be done. No person can be intimately associated with any province of nature for any considerable length of time without feeling his impulses quickened for purer and better things, and his soul expanded to the possibilities of a larger life. This I take it is the highest and fundamental object of nature study.

2. *Sense training, particularly the training of the eye.* It is well understood that we see not simply the object which is directly before us, but this object as colored or modified or entirely changed through previous conceptions which we may have had of it through personal prejudice and from past experience. Tennyson says that "things seen are mightier than

things heard," but it is not an easy task for a person to see things clearly and accurately. To say that such an accomplishment is desirable is the veriest truism. I think, however, that we sometimes forget that the accomplishment is not altogether an easy one to acquire.

3. *The training of the judgment to draw conclusions* from things as they are actually observed independently of previous bias or former experience. Nature study, particularly in the elementary grades, does not call for close analysis or extended classification. It does constantly call for comparisons and for contrasts. These comparisons and contrasts furnish an excellent basis for the formation of correct judgments.

4. *The furnishing of material about which pupils shall learn to express themselves with exactness and brevity.* Any one who has ever tried it knows that it is no easy task to give a concise and accurate description of any object or experience. Nature study furnishes an interesting and fruitful field from which may be drawn the material to be used in training this faculty.

5. *Habits of inquiry.* It is natural for children to ask questions; it is not natural for them to ask questions intelligently. Indeed it has been said that "any fool can ask a question, but it takes a wise man to answer it." We should come nearer the point toward which we strive in nature study if we were to remember the converse of the above maxim, namely, it takes an exceedingly wise person so to ask a question that the unwise may correctly answer it. Nature study when undertaken in the right spirit and carried on carefully and consistently trains the child and the adult into habits of careful and correct inquiry.

II. THE MEANS TO BE USED: The primary means are of course objects taken from nature. This includes the full range of nature, but more particularly the two great kingdoms of life, namely, plants and animals. Plants and seeds can easily be taken into the schoolroom, and they will thrive there at least for a time if they receive reasonable care. While there the children should learn to live with them consciously and to care for them thoughtfully. It not infrequently happens that the best results are obtained not from the study and observation of the object but from the conscious, planned efforts to care for it, for in this direction the first of the objects already referred to is most largely realized. A second means, and often a very useful one, is the nature myth and legend. These should always be considered as secondary to the objects themselves, but when rightly chosen and intelligently used they give large help toward the quickening of the imagination and therefore toward stirring up the finer and nobler feelings. Such stories should, however, be carefully selected. It goes without saying that they should not be stories made up for the occasion. Those myths and legends which have come down through the centuries from the Orient, from the Greek and the Latin and from the Norsemen, contain within them the elements of life and therefore of inspiration.

Their use should of course always be carefully planned so that their environment may intensify the impression which they will naturally produce. Such a story as Arachna or the Spider's Origin will be used in connection with some specific ideas which the children have obtained of the spider and its web. After such ideas have been obtained the story not only helps to fix and clarify the impressions already gained, but furnishes an infinite variety of suggestions of the best sort for further thought and consideration. The myth concerning the origin of the grasshopper or the origin of the sunflower when used in connection with the study of the grasshopper or the sunflower, will produce the same sort of positive results.

III. THE TEACHER'S EQUIPMENT: One is frequently asked what equipment does the teacher need for the work in nature study. It is quite easy to mention things which it is desirable that the teacher should know and lines of training which will be very useful for the teacher to have received. I have grown to believe, however, that there is only one absolutely essential requirement, and that is a personal experience in some phase of nature study covering a sufficient length of time to arouse within the teacher some sympathy and love for the subject. The great difficulty is that not infrequently one attempts to teach in nature something which he only knows as a matter of information gathered from the text-book or reference book. Knowledge coming in this way must perforce result in a cataloguing of detailed facts for the pupils to learn. This is farthest from what is desirable in nature study; but that teacher who has done nothing more than carefully observe the germination of simple garden seeds and their development until the fruit has matured, and from time to time has tried to draw the plants during their growth, has a basis which is sure and a foundation such as can never be obtained by any amount of book learning. The plants which she has cared for to maturity may not be as vigorous or perfect as many others; the drawings which she has made may be much inferior to those which could be taken from any standard text-book; but they are her own and they express, although imperfectly, what she herself has seen and felt. She has thus a basis of personal experience and has acquired a strength and an interest which will serve in good stead wherever she may roam in the wide field of nature. This element of the teacher's equipment I regard as a *sine qua non* to genuinely successful work. Fortunately this equipment is within the reach of any one who will strive for it. It does not call for university training nor a course of lectures in a summer school; it does call for a systematic endeavor covering a definite period of days or weeks. With this equipment everything else which is so useful and desirable for the teacher to have and to know will come in its own good time; without it nothing of value is realized.

IV. THE WORK OF THE FIRST GRADE: It will be noticed that the work of the first grade and all the primary grades is classified under two heads, namely, Spring term and Fall term. This is very important as well as convenient. It will naturally follow that during the Spring term the 1B class who entered school in September, and the 1A who entered in February, will be covering practically the same work. The 1B pupils will be able to do a little more intensive work in certain directions because of that which they have gained during the work of the Fall term. In all other respects the work of the two may be the same. It may not be out of place here to repeat specifically the caution which has already been made in general terms: The teacher of the first grade should under no circumstances make a list of plants and animals and other objects to be taken up during the term and then attempt to go through the list with the class. From the things which are mentioned in the syllabus she may wisely select that one with which her personal experience has been most intimate. If she has had no personal experience with any of these topics let her first obtain such experience with that thing which most appeals to her. From this as a center work will naturally radiate and develop. An elementary study of seeds belongs here as a first step. A simple seed with large parts like the squash or the bean should be soaked until the cotyledons (term not to be used in class) are somewhat softened and the seed covering is easily removed. The children at once discover that the seed consists of two large, somewhat softened parts, and if a seed like the squash is used they can easily notice that upon these halves there are markings which somewhat resemble the veins of leaves. They also discover that these two parts are held together by something which resembles a tiny stem, to which are also attached two tiny white leaves carefully folded. Here the children find a suggestion of a little plant and naturally are delighted with the discovery. Attempts at expressing what they have seen with pencil or crayon or water color as well as by words assist at this step. Other seeds are placed in moist earth, preferably by certain children in the presence of the class and teacher, and results are awaited. When the little plant appears above the ground the resemblances and differences between the cotyledons as they observed them on the first examination and their appearance now form an interesting topic for consideration and discussion. Then the growth of the plant from day to day and week to week is noted. not with technical detail but in a general way. In selecting seeds it is well to choose not only those with large parts and therefore easy of study, but also such as will develop into mature plants within a few weeks, because when such plants are selected the pupils will be able to see the whole cycle of life rather than a small fragment of it. For this reason the radish is better than the sunflower, the white bean is better than the Lima bean, and the squash is better than the apple or maple.

The unfolding of buds furnishes another interesting field of inquiry and investigation. Buds as large as possible are wisely selected, and the first study may well be made as soon as the warm days of early spring cause them to swell. If buds like those of the horsechestnut are taken, the pupils easily discover the sticky substance adhering to the outside of the scales, and readily draw the inference that this varnish acts like a gum as a waterproof covering. Underneath the scales they find a packing of material resembling cotton, and the resemblance of this to the quilt upon their own beds leads to a natural and correct conclusion as to the use of the packing material in the bud. They also discover wrapped away carefully tiny folded leaves, and are delighted to discover that the leaf is all in the bud. As other buds like those already studied continue to swell and burst forth within the schoolrom, the children see the fulfilment of the expectations formed from the preliminary study and get correct ideas of development as well as interesting and valuable lessons concerning nature and her provisions.

The study of blossoms and plants in blossom makes a third interesting field. Here the line of work is not an analytical one; it is not the counting of the parts of the flower, it is the noting of its colors, its shape, its beauty, its odor. Where opportunity permits they also discover that flowers have a great attraction for bees and other insects; they learn to recognize various plants and blossoms as they recognize their friends, members of their family or members of their class, not by analyzing the features but by certain differences and resemblances which best appeal to each individual. In thus learning to recognize different plants and flowers they are gathering quite rapidly a large amount of material which in higher grades can be used to advantage in an elementary sort of classification. Indeed they are now unconsciously making a classification.

The course of study and syllabus also suggest certain animals for study in the first grade. The way in which animal study is best taken up may be inferred from what has already been said respecting the study of plants. In studying a cat, a dog, a canary or a sparrow, those points which appeal to the child are the points to be mentioned and not necessarily those which appeal to the naturalist.

In all of this work care should be taken to remember that "he who thinks chiefly of his subject teaches science; he who thinks chiefly of his pupils teaches nature study." Nature study is what we are trying to teach.

Number Work—1A.

By Rosalie H. Steinfelder, P. S. 171, Manhattan.

IN regard to the Number Work of this grade, the following plan or prospectus might serve as a suggestion. There being but a few minutes a day allowed for this subject, the progress made will be correspondingly slow.

Plan for First Week.—1 and 1 taught concretely as . and . are . . (using splints, beads, different objects in the room and also simple drawings on the blackboard). Counting two objects. Scoring I., II. Reading numbers 1, 2 from the blackboard.

Writing 1's and 2's on the blackboard and on paper (Individual pupils to do the former; the entire class, the latter). This will be sufficient for the first week as constant repetition and drills are necessary to secure a firm foundation.

Beginning with the second week, two new combinations weekly in this one addition table may be taken up, proceeding in like manner. The counting, scoring, reading and writing of new numbers taught may be included.

The fourth week may be given to review. By this time half of the table will have been taught and abstract work for rapid calculation may be well introduced; as numbers in a circle with 1 for a centre or combinations written on charts: $\substack{1\\1}$ $\substack{3\\1}$, $\substack{1\\2}$, etc., children being required to answer promptly when the teacher points to the numbers.

The fifth, sixth, seventh and eighth weeks for the completion of the addition of 1's through 9 and 1; and a thorough review besides teaching the comparison of cent and dime and continuing counting and reading numbers to 20.

In teaching cent and dime, the teacher asks the children to imagine themselves marketing or shopping, and she then gives simple practical examples using either real coin or a good substitute. She shows that ten cents will buy a dime's worth and that five will purchase half a dime's worth; but that for convenience in handling and carrying, the larger denomination is generally preferred.

The relative value of the metals—copper, nickel and silver—can be explained in language within the children's grasp of comprehension. The children will be delighted to work simple examples of addition on paper using c. mark, as,

1c.
3 "
1 "
1 "
1 "
——
7c.

In the ninth week, the addition of 2's is begun with one new combination every week. In teaching the addition of 2's, it would be simpler to take the even combinations first.

Plan for Ninth Week.—2 and 2, also reading numbers to 30.

Tenth Week.—4 and 2, 2 and 4. Reading numbers to 40.

Eleventh Week.—6 and 2, 2 and 6. Reading numbers to 50.

Twelfth Week.—8 and 2, 2 and 8. Reading numbers to 60.

The concrete method is employed as in the preceding lessons.

Unconsciously the children will be impressed with the counting, multiplication and division of 2's to 10, by using splints or other objects; marks on the blackboard, etc.; this will prepare them for the work of the next higher grade.

Thirteenth Week.—3 and 2, 2 and 3. Reading numbers to 70.

Fourteenth Week.—5 and 2, 2 and 5. Reading numbers to 80.

Fifteenth Week.—7 and 2, 2 and 7. Reading numbers to 90.

Sixteenth Week.—9 and 2, 2 and 9. Reading numbers to 100.

Seventeenth Week.—Pint and quart compared. Have both pint and quart measure if possible. Allow the children to do the measuring and to see it done. Water can be measured and the children shown that two of the smaller measures are needed to fill one of the larger. Examples using these terms, as: A quart cost 4c. and a pint 2c.—Cost of both?—always having the cost of the quart twice that of the pint, or the cost of the pint half that of the quart; this will teach the children that the quart is the larger measure.

After the reading of numbers to 100 has been taught, the counting by 10's will be an easy matter.

Write the numbers from 1 to 100 on the blackboard or on a chart in ten distinct columns—the first from 1 to 9; second from 10 to 19; third from 20 to 29, etc.

The children are shown that there are always ten numbers between the first number of every column and that of its succeeding one, and that the family name is changed after every decade. So we count only the families by pointing out to them and naming the first number of every column. The remaining week or two for review.

Notes on Reading—1A.

By Margaret Daly.

A LITTLE conversation starts each lesson. Sight words to be taught are written in black as large as the cardboard (from back of pads) permits. As the words, baby, rattle, May, etc., are introduced the cardboards are passed to bright children who stand at front of room holding the cards over their heads. When all the cardboards are given out start with first child who says her word, class repeat it; teacher takes card and child takes seat, then second child, etc. The lessons are delightful and most successful.

STORY (1)

May is a baby.
She has a long dress.
She has a rattle.
She has a mama.
She has a papa.

CONVERSATION.

Once you were a baby.
You couldn't walk or talk.
I know a baby named May.
Let us read about her.

PHRASES AND WORDS.

a long dress
a baby
a mama
a rattle
a papa
she has
she is

PHONOGRAMS.

long
song
dond

Ned
bed
led
red

rat
cat
mat
hat

he
me
she
the

dress
Bess
less

STORY (2)

May is a little girl.
She has a pocket.
She has a cent.
She has a pony.
She has a mama.

CONVERSATION.

May is not a baby now.
She is a little girl.
She has so many things.
Let us read about what she has.

PHRASES AND WORDS.

a little girl.
a pocket
a cent
a pony
a mama
She has
She is
May has
May is

PHONOGRAMS.

he
she
me
the

pony
bony

cent
bent
dent
sent
lent

lit
sit
mit
fit
hit
bit
little

rock
dock

lock
locket
pocket

STORY (3)—GOING TO SCHOOL.

May is going to school.
Give her a pencil.
Give her a pocket.
Give her a book.
Give her a cent.

What did mama say to papa?
What did papa tell mama to do?
He said to give her something else.
And another thing to put in her pocket.
Something else.

PHRASES AND WORDS.

is going
to school
a pocket
give her
give May
a cent

a book
a pencil
her

PHONOGRAMS.

go
is
his
'tis

cent
ing
sing
ring
ling
wing

sock
mock
lock
locket
pocket

so
ho
lo

bent
went
book
look
cook

STORY (4)—SCHOOL.

What is your name?
Have you a book?
Have you a pocket?
Have you a pencil?
Good morning, May!
Have you a mama?
How old are you?

CONVERSATION.

When May went to school what did the teacher say?
She wanted to know?
What did the girl beside her say?
What did the monitor say?
When she went up stairs in the morning.
When someone was waiting for May to take her home.
What did the principal say?

PHRASES AND WORDS.

Your name
Have you
Good morning
How old
What is

are
—have
—good
—what
are you

PHONOGRAMS.

name
same
tame
lame
morn
born
corn

old
cold
bold
sold

how
cow
now

STORY 5—GOING HOME.

Give Ned his hat.
See my red hat.
See my blue hat.
See my green hat.
See my yellow hat.
Good morning.

CONVERSATION.

What did the teacher say to the monitor?
What did Ned say?
What did the other boy say?
The monitor said
What else?
What did all the boys say to the to the teacher?

WORDS AND PHRASES.

his hat
red hat
See give
Give Ned
See Ned
My yellow hat
Good morning

PHONOGRAMS.

see
me
be
the

hat
Sat
mat
bat
rat
fat

yellow
fellow
bellow

my
by

red
bed

Use colored chalk for words, blue, red, yellow, etc., while reading.

STORY 6—HOME.

Mama has a good little girl.
Little May! Little May!
See my little girl.
See my book, mama.
See my pencil, papa.

CONVERSATION.

What did mama say when May went home?
Papa say when he saw May coming home.
What else did he say?
What did May show her mama?
What did she say to papa?

WORDS AND PHRASES.

a good girl
a little girl
a good little girl
little May
my pencil
my papa
my book
has a good girl

PHONOGRAMS.

pen
Ben
men
hen
den
pencil

lit
hit
bit
sit
mit
little

my
by
try

Ned
bed
fed
led
red

STORY 7—PAPA.

Papa, have you a pocket?
May has a pocket.
Give me a cent, papa.
My papa is good to me.
See my blue pencil, papa.

CONVERSATION.

What did May say to papa?
He said something else.
What did he ask him for?
Did he pet papa?
What did he show him?

WORDS AND PHRASES TO BE RECOGNIZED.

Have you
You have
a pocket
Give Ned
Give me
blue pencil

is good
Ned has
Has Ned

PHONOGRAMS.

give
live
be
the
she
we

me
he

STORY 8—NED'S DOG.

Ned's dog is Carlo.
He is going to school.
What is your name, little dog?
Bow-wow-bow-wow.
How old are you?
Bow-wow-bow-wow.
Have you a bed, little dog?
Bow-wow-bow-wow.

He has a house.
He can eat meat.
He can eat a bone.
He can run after Ned.

CONVERSATION.

What did the teacher say?
Dog said—
Teacher say
Carlo said, etc.

bow cow how now bow *won* won bone cone lone
bed red Ned fed
run sun bun fun *gun*
cool school
house *mouse*
name tame same lame
eat meat beat seat *heat* heat
old cold sold

STORY (9)—NED'S PONY.

This pony is a baby pony.
This pony can eat hay.
This pony can eat grass.
He can eat oats.
He has no shoes.
May has shoes.
Ned has shoes.
He can run down a hill.
His name is Tom.
He is a tame pony.
He has a house.
His house is a stable.
He has a bed.
His bed is grass.
He can run after Ned.

can man fan *you*
eat meat beat *heat*
no so ho *go*
down town *gown*
hay may day *pay*
oats boats coats *goats*
sun fun sun *bun*
hill fill mill *sill*
is 'tis *his*
tame name *same*
this kiss *miss*
table stable
pony bony

Grade 1B—English and Nature Study.

By Adele Bildersee, Public School 16, New York City.

Composition: Conversation and Oral Reproduction. Suggestive Plan—Fall Term.

September: Home life—Millet's "The First Step;" the cat as pet; goldenrod, aster, burdock; summer sports and outings; work of gardener and farmer; politeness; fruits; observation of weather; sun; reproduction: "Who Stole the Bird's Nest?" "The Sleeping Apple."

The term's work may well begin with a talk about some picture which will appeal to the child. Any picture of the Madonna will be good, or Millet's "The First Step." Question the children on what they like in the picture. Let them talk about the mother's or big sister's protecting arms. What do they think she is saying? What does the father say? Does he love the baby? How do you know? What has he been doing? How do you know? Does the baby love him? Do you think this is a happy family?

This idea of home life and love for baby may be extended to animal life. As the cat is studied in this grade, children and teacher may tell anecdotes of the Mother Cat's care for her little ones. Bird life may be spoken about from the same point of view.

Every nature study lesson, or every short series of lessons, should be followed by a less formal talk upon the same subject. In the early part of September let us have a talk upon the goldenrod, the aster and the burdock in connection with the other autumn flowers: the fringed gentian, the closed gentian, yarrow, thistle, wild sunflower, butter and eggs, etc. Let the children, as far as possible, notice the habits of the flowers, their preference for light or shade. Personify them. For example, take the aster. What does it see and hear?

The summer games and outings, trips to the country and the seashore, work in the vacation schools, all will prove subjects of great interest. The child will be eager to talk. Without the use of any restraint the teacher may accustom him to answer in complete statements.

The work of the gardener and the farmer in spring and summer may be contrasted with their work in autumn.

There should be some system of teaching manners. One lesson should tell of the courtesy due the parents, and lessons should follow on manners towards teacher, principal, strangers, elders, and, finally, one another; pleasantness in games; unpopularity of "Little Willie I-won't-play."

The fruits may be made the subjects of "guessing" tests of various kinds. Let the child hold a fruit behind him and describe it to the class, which is to guess what is in his hands. Various excellent expression exercises may be based upon this idea. Tell stories about the fruits. The apple is very rich in story: Hercules and the Apples, the Apple of Discord, William Tell and the Apple, Appleseed John, and the Sleeping Apple.

October: Distribution of seeds; the wind; migration of birds; harvest time; autumn games and outings; talks on food: I—bread and butter; picture—"Feeding Her Birds;" reproduction—"Sun and the Wind"; chestnut.

How do seeds get out of their boxes? Pod of bean? burr and shell? flesh of apple? peach? etc.

How do seeds get away from the mother plant?

1. Seeds with sails—aster, goldenrod, milkweed, thistle, dandelion, cat-tail.
2. Seeds with springs—witch-hazel, touch-me-not.
3. Seeds with hooks—burdock (fruit cluster), stick-tight, tick-treefoil.
4. Birds help plant dogwood and other brightly colored berries.
5. Squirrels plant chestnuts and acorns.

Let the children blow the milkweed seeds about the room; let them test the sticking capacity of the burdock; let them hear the witch-hazel shoot its hard seeds, and they will have much to talk about.

The wind—what work does it do in autumn? Blows the leaves from the trees, blows down the nuts, apples and other fruits, scatters seeds. What work does it do in all seasons? Drives sail-boats, turns windmills, dries clothes, blows clouds, flies kites. Have you ever heard the wind? Have you ever felt the wind? Is it strong? Story: "The Wind and the Sun." Poems: Stevenson—"The Wind;" Stevenson—"Windy Nights"; Sherman—"Wind."

What do the birds do in the winter cold when they can get no food? What helps them fly south? (Review wind.) Do all the birds go?

Let the children realize the debt they owe the farmer. How are the crops gathered in? How are they stored away? Speak of the barn and the cellar, of hay, grain, potatoes, apples, etc.; of the farmer's tools.

Is the weather the same as when we came back to school? How has our out-door life changed? What games do we play now?

We have spoken of the debt we owe the farmer. Let the children respect all industries. Whom must we thank for our bread? Where did the baker get the flour? Where did the miller get the wheat? What did the farmer have to do? (ploughing, planting, harvesting, threshing, etc.) Talk also of the wood-cutter and the miner. Butter may be traced back to the "friendly cow" in the same way.

"Feeding Her Birds" should be treated as was the first step. A few apt questions will make the children talk freely about this delightful picture. Other "feeding" pictures may be shown and compared with this one.

Stories for reproduction should be short and simple. Let the children act the stories. In "Who Stole the Bird's Nest?" one child may be poor little Yellow-breast, another the cow, and so on. In the Wind and the Sun, the wind, the sun and the man may be represented.

November: underlying thought—thanksgiving; Thanksgiving past and present; Jack Frost; ice; snow; preparation for winter cold; corn; jack-o'-lantern; reproduction—"Little Red Hen."

What workers have we talked about? What did the farmer do in the autumn? Talk about fruits and vegetables. How does he feel when he looks at his cellars and barns? People have set aside a special day for giving thanks. (Sing Thanksgiving Song: "Over the river.") Whom shall we meet at Grandma's? Run into the kitchen. What do you see? Turkey, apples, nuts, mince pie, pumpkin pie, etc. Should we only think of eating? In church sit quietly, do not talk. What have *you* to be thankful for? Show it in deed as well as in word. Thanksgiving fun—make a jack-o'-lantern.

What is Jack Frost good for? He opens chestnut burrs and other seed boxes; brings the snow to cover plant life; makes ice, etc.

How do the birds get ready for winter? The farmer? The fishes? The leaf-buds? The caterpillars? The trees? The rabbits? The squirrels? How do we get ready?

Talk about corn after the nature study lesson on corn. Talk about plowing, sowing, weeding, harvesting, husking, etc.

December: winter and winter games; indoor play; toys; Christmas; occupation—the blacksmith; talks based on the nature work; stories about Christmas; Piccola; *Andersen*—Fir Tree; Little Match Girl; *Pratt's* Fairy Land of Flowers—Discontented Pine Tree. What season is this? Why is it not summer? Characteristics of summer: hot weather, plenty of sunshine, birds, bees, butterflies, flowers, leaves, grass. Is it autumn? Characteristics of autumn: colder weather, birds flying away, leaves turning and falling, fruits ripening, seeds flying. And now—bare trees, birds gone—it is winter. What will come after winter?

Song—"Where do all the daisies go?" What do we play with? What toys can we make?

Wool.—Review preparation for winter. Where do our warm clothes come from? Preparation of wool: washing and shearing the sheep; combing, spinning, knitting and weaving.

Christmas. Gift-giving as a means of showing love. Christmastide fun.

January: new year; talks based on nature work; story of the year reviewing previous talks.

PENMANSHIP.

Although direct teaching is confined to the small letters, still the child should write short sentences beginning with capital letters. These sentences should be taken from the reading lesson, the conversation or the nature study lesson. They should not be copied over and over. The teacher should vary the exercise. If she choose she may dictate sentences which have been used in a previous writing lesson. For busy work the children may copy lists of reading words.

READING.

The nature study lesson will form a good foundation for the blackboard reading lesson. The children will be delighted to read their own "stories." They may be led to group their sentences into unified paragraphs. Most reading, however, will be from books, and as many books as possible should be read. One book should be taken as a drill book, and three or four other books may be used as supplementary readers.

As a preparation for the recognition of new words the teacher should slowly pronounce the word, the children putting the sounds together and realizing the entire word. The new words should always be presented in sentences. After they have been taught the teacher may place them on cards. For a rapid review of words the teacher should stand with these cards so that every child can readily see them (the corner farthest from the light is best) and she should rapidly present them to the class, the children in turn calling out the word as it is shown. Every reading lesson may well begin with this rapid review of words from cards. The sounds may be reviewed in the same manner. The new words should be presented and drilled and such conversation should be held as will prepare the children for the appreciation of the subject matter. The reading lesson proper should not be interrupted by questioning on the part of the teacher, or by stumbling on the part of the child. If a child stumbles tell him the word rather than break the thought connection by a lengthy development.

Have each child read a whole sentence to himself before reading it to the class. He should then tell what he has read in a natural tone with his eyes away from his book.

Reading to the Pupils. In connection with the poems and stories suggested in the syllabus it might be a good plan to ascertain what the children will read for themselves in the next grade and read those stories to them.

SEPTEMBER.

Animals: Cat, Mouse.
Flowers: Goldenrod, Aster, Burdock.
Fruits: Apple, Pear, Peach, Plum.

OCTOBER.

Animals: Rabbit.
Flowers: Goldenrod, Aster, Burdock, Geranium.
Fruits: Apple, Pear, Peach, Plum.
Vegetables: Potato.

NOVEMBER.

Animals: Pigeon, Duck.
Flowers: Chrysanthemum.
Fruits: Chestnut, Acorn.
Vegetables: Corn, Sweet Potato, Pumpkin.

DECEMBER.

Animals: Canary, Sparrow.
Fruits: Peanut, Nuts.
Vegetables: Onion, Turnip, Carrot.

JANUARY.

Animals: Review.

Cat. Let the child get a clear picture of the cat in its surroundings in the house; its size, its various colors; its voice and cries: purring when happy, mewing when in want.

What food does it prefer? What gifts of body are employed in obtaining that food? In eating it? Legs formed for springing; climbing; sharp retractile claws; soft pads on paws; acute hearing; keen eyesight, pupils with power to contract and expand; spoonlike tongue; daintiness.

How can she protect herself against her enemies? Claws and teeth again; keen senses; flight by running and climbing to inaccessible places.

Protection against weather; covering—Does it vary with the seasons? Pretty velvet-like fur. Care of young—life-history. Uses—as catcher of mice; as pet. Anecdotes.

Mouse. Surroundings in house and barn. Size, color and voice compared with cat's. Food—how eaten—formation of teeth; when obtained. Hear feet pattering in the night. Tail compared with cat's—hairless. Pointed head, sharp ears and eyes. Protection lying in speed, color and refuge in small holes. Home—nest in wall, or trunk or other queer hiding place—and care of young.

Field mouse with its red brown coat with white vest; dainty habits. Kindness to mouse. Have the mouse tell its story of danger. Read Francis E. Cook's "A Clever and Good Mother Mouse."

Rabbit. Home in burrows with blanket of dry grass and fur; on some sunny bank. The home must be warm, dry and near nice food. The hole must be hidden. Description: size, small head, large eyes, long ears, short neck, color—brownish, white, black, gray; short upturned tail. Food—grass clover, vegetables, bread, etc.; teeth, compare with mouse. Protection: sharp ears (pink, erect), keen eyes to see dog or man with gun, or fox or other enemy; flight by running, jumping (hind legs long); numerous holes; protective coloring. Protection against weather —warm, furry coat. Care of young—Ernest Thompson Seton's "Rag."

Canary. Home in cage; size; color—yellow or greenish; voice —very musical. Covering of feathers—warmest and lightest covering. Food: seeds, green leaves, sugar, yolk of egg, water; sharp, short, stout, conical beak. Pale blue eggs. Movements: flight, hopping with both feet at a time. Perching: long slender toes, three in front and one behind. Would change places with any little brown bird.

Pigeon. Home in tree and pigeon-house; size; color—bluish-gray, green and purple, etc.;, voice: coo. Food: grain; bill of grain-eater; swollen nostrils; feet suitable for walking and perching. Uses: love for home makes it a helpmate for man; messages are tied to neck or leg; flies very fast.

English Sparrow. Home high out of reach of cat in tree or under eaves. Soft pretty colors in neat brown coat. Sharp eyes. Food— grain, insects, etc; compare beak with pigeon's and canary's.

Duck. Size compared with canary's, sparrow's and pigeon's. Voice: quack. Description: color-varied and beautiful. Food: insects, worms, fish, grasses; broad, flat bill. Movements—swimming—feet webbed; short, strong, yellow legs; awkward in walking. Covering— close feathers, thick, soft and oily. Nest on ground. Mention the eider-duck, canvas-back, wood-duck.

In all lessons on birds the care for the young before and after birth should be dwelt upon.

Goldenrod. Grows by road sides, along fences, in meadows; likes the sun; turns to sun. Is our State flower. Flower: many little flowers together, yellow. Stem: Is it rough or smooth? Covered with hairs? If so, why? Angular or round? Shape of leaves in various common species. Kind of root.

Aster. Show harmony in colors—white and purple. Grows in woods, shady places, by brooksides. "Asters by the brookside make asters in the brook." Derivation of word—star flower. After having seen the plant as a whole let the children look at the little flowers, white and yellow, in a green cup.

Burdock. Like small thistle. Fruit clusters have hooks—look like green burrs. Leaves woolly on under side. Stem much branched.

The *geranium* and the *chrysanthemum* may be taken up in the same way.

Apple and *Pear*. Color: red, yellow, green, etc. Shape: in apple, round, dimpled; stem short and strong; blossom end. Skin—coat for protection; glossy or dull? Smooth or rough? Tough and thin. Pulp—hard, white, juicy. Core—position, shape. Have the children soak the core to see the shape. Number of cells, 5. Seeds—size, shape, color, number. Life story of tree.

The peach and the plum may be taken up similarly. In studying all fruits the children should observe the outside protection, the structure, the number of seeds, the position of the seeds, how they get out of their "boxes" and how they are scattered and planted.

Chestnut. Life story: leaves, flowers and fruit. Development: from flower to closed burr, to open burr. Account for all the markings on the nut. Why are some chestnuts flat and some round? As the three baby chestnuts who lived in one burr grew, they squeezed and pressed; and the little nut in the middle had his sides flattened. Account for scar on nut, and scars in burr. Notice the down on the pointed end of the nut. Why is it there? That kept the nut warm. Why was the burr closed and green in the summer? Why is it open and brown in the fall? Who opened it? Is it a nice cradle for the baby chestnuts? Why does each chestnut need a shiny hard coat? What are chestnuts good for?

Similarly, the acorn and the peanut. The acorn seed fills the whole nut and the nut is surrounded at the base by a scaly cup. The peanut has two nuts (sometimes three and sometimes only one nut) in one shell. Each seed has a tight brown coat of its own.

The vegetables are easily presented. A special vegetable—the corn. Whole plant—tall, hollow stalk; great green leaves; some flower tassels at top of stalk; but heavy fruit farther down the stem. Planted in hills in rows. Food for horses, cows and man. Grains in rows on cobs; burst when roasted—popcorn. Ears in green coats—husking-parties.

The object of the nature study lessons is to cultivate observation, to rouse the interest of the children; to show how things are fitted to do their work, to awaken love. Have something growing in the class room. Plant every fruit and vegetable studied, when that is possible.

A daily record of the weather should be kept on the class calendar, on the blackboard or on a piece of Bristol board. Each day should be marked in its appropriate square. A yellow circle may be drawn for a sunny day, a gray circle or a closed umbrella for a cloudy day, an open umbrella for a rainy day, and a big snowball for a snowy day. At the end of the month the weather for the past month should be commented upon.

OVER IN THE MEADOW.

Wadsworth.

Over in the meadow,
In the sand, in the sun,
Lived an old mother-toad
And her little toadie one.
"Wink!" said the mother;
"I wink," said the one:
So she winked and she blinked
In the sand, in the sun.

Over in the meadow,
Where the stream runs blue,
Lived an old mother-fish
And her little fishes two.
"Swim!" said the mother;
"We swim," said the two:
So they swam and they leaped
Where the stream runs blue.

Over in the meadow,
In a hole in a tree,
Lived a mother-bluebird
And her little birdies three.
"Sing!" said the mother;
"We sing," said the three:
So they sang, and were glad,
In the hole in the tree.

Over in the meadow,
In the reeds on the shore,
Lived a mother-muskrat
And her little ratties four.
"Dive!" said the mother;
"We dive," said the four:
So they dived and they burrowed
In the reeds on the shore.

Over in the meadow,
In a snug beehive,
Lived a mother-honeybee
And her little honeys five.
"Buzz!" said the mother;
"We buzz," said the five:
So they buzzed and they hummed
In the snug beehive.

Over in the meadow,
In a nest built of sticks,
Lived a black mother-crow
And her little crows six.
"Caw!" said the mother;
"We caw," said the six:
So they cawed and they called
In their nest built of sticks.

Over in the meadow,
Where the grass is so even,
Lived a gay mother-cricket
And her little crickets seven.
"Chirp!" said the mother;
"We chirp," said the seven:
So they chirped cheery notes
In the grass soft and even.

Over in the meadow,
By the old mossy gate,
Lived a brown mother-lizard
And her little lizards eight.
"Bask!" said the mother;
"We bask," said the eight:
So they basked in the sun
On the old mossy gate.

Over in the meadow,
Where the clear pools shine,
Lived a green mother-frog
And her little froggies nine.
"Croak!" said the mother;
"We croak," said the nine:
So they croaked and they plashed
Where the clear pools shine.

Over in the meadow,
In a sly little den,
Lived a gray mother-spider
And her little spiders ten.
"Spin!" said the mother;
"We spin," said the ten:
So they spun lace webs
In their sly little den.

Over in the meadow,
In the soft summer even,
Lived a mother-firefly
And her little flies eleven.
"Shine!" said the mother;
"We shine," said the eleven:
So they shone like stars
In the soft summer even.

Over in the meadow,
Where the men dig and delve,
Lived a wise mother-ant,
And her little anties twelve.
"Toil!" said the mother;
"We toil," said the twelve:
So they toiled and were wise,
Where the men dig and delve.

HUSH! THE WAVES ARE ROLLING IN.

Old Gaelic Lullaby.

Hush! the waves are rolling in,
White with foam, white with foam;
Father toils amid the din;
But baby sleeps at home.

Hush! the winds roar hoarse and deep,—
On they come, on they come!
Brother seeks the wandering sheep;
But baby sleeps at home.

Hush! the rain sweeps o'er the knowes,
Where they roam, where they roam;
Sister goes to seek the cows;
But baby sleeps at home.

MEMORIZING THE SUNBEAMS.

Tennyson.

"Now, what shall I send to the Earth to-day?"
Said the great, round, golden Sun.
"Oh! let us go down there to work and play,"
Said the Sunbeams, every one.

So down to the Earth in a shining crowd,
Went the merry, busy crew;
They painted with splendor each floating cloud
And the sky while passing through.

"Shine on, little stars, if you like," they cried,
"We will weave a golden screen
That soon all your twinkling and light shall hide,
Though the Moon may peep between."

The Sunbeams then in through the windows crept
To the children in their beds—
They poked at the eyelids of those who slept,
Gilded all the little heads.

"Wake up, little children!" they cried in glee,
"And from Dreamland come away!
We've brought you a present, wake up and see!
We've brought you a sunny day!"

WHAT DOES LITTLE BIRDIE SAY?

Tennyson.

What does little birdie say,
In her nest at peep of day?
"Let me fly," says little birdie;
"Mother, let me fly away."
"Birdie, rest a little longer,
Till the little wings are stronger."
So she rests a little longer,
Then she flies away.

What does little baby say,
In her bed at peep of day?
Baby says, like little birdie,
"Let me rise and fly away."
"Baby, sleep a little longer,
Till the little limbs are stronger."
If she sleeps a little longer,
Baby, too, shall fly away.

THE BABY.

MacDonald.

"Where did you come from, baby dear?"
"Out of the everywhere into the here."

"Where did you get your eyes so blue?"
"Out of the skies, as I came through."

"What makes the light in them sparkle and spin?"
'Some of the starry spikes left in."

"Where did you get that little tear?"
"I found it waiting when I got here."

"What makes your forehead so smooth and high?"
"A soft hand stroked it as I went by."

"What makes your cheek like a warm, white rose?"
"Something better than anyone knows."

"Whence that three-cornered smile of bliss?'
"Three angels gave me at once a kiss."

"Where did you get that pearly ear?"
"God spoke, and it came out to hear."

"Where did you get those arms and hands?
"Love made itself into hooks and bands."

"Feet, whence did you come, you darling things?"
"From the same box as the cherub's wings."

"How did they all just come to be you?"
"God thought about me, and so I grew."

"But how did you come to us, you dear?"
"God thought of you, and so I am here."

THE GOLDEN RULE.

New England Primer.

Be you to others kind and true,
As you'd have others be to you.

Grade 2A.

By Bertha Samerfeld, P. S. 55, Brooklyn.

I. NECESSITY FOR EATING.

To build up body. To keep body from wearing out. To keep body warm.

a. Why taller this year than we were last? Why do we need larger clothes? Why do we weigh more? What makes one grow? Why must we eat? Would a tree grow if placed on the floor? If we pull plants up by the roots what happens? How are plants fastened to the soil? What do roots find? Therefore if plants need food to make them grow, we certainly do as we do more work.

b. Our parents eat, too, and they do not grow as much as children do. Let us see why they eat? Why does your coat need mending? So does our body wear out. When we think or run or play our bodies are wearing away—every time we breathe. What do you think mends our bodies?

c. Which do you think feels the cold more—a hungry child or a child that has had a good dinner? To keep warm we must have what?

II. IMPORTANCE OF REGULARITY IN EATING.

Three meals a day. Not eat between meals. Stomach needs a rest as well as any other part of the body. If it does not get a rest, our food will not be properly digested. Not eat before going to bed as digestion goes on slowly then. When bell rings and we go home what meal do we eat? What meal did we have before we came to school? What meal do we have toward evening? How many meals do we have a day? When should we not eat? Why?

III. KINDS OF FOOD. WHOLESOME SOLID FOOD.

Review reasons for eating. Why do Esquimo children eat fatty things? Fatty things that will warm the body? Something we eat on our bread? Hard-shell things that we must crack? Sweet things. Fruits have sugar. Name some. Something that we put our butter on. What do farmers grow in their fields? What do we make from wheat? We need fatty foods—sweet foods, not too much, and starchy foods. Explain why bread after being chewed tastes sweet—starch of flour changed to sugar. Name some starchy foods: Potatoes, rice, macaroni, tapioca, corn, cornmeal. Bread, oatmeal, muffins, cakes made from flour, all come from grain, as wheat, oats, barley, corn. Starch in all changes to sugar. We are fond of sweets and are not satisfied with natural sweets in grains and fruits, but add sugar to oatmel, etc., and generally eat too much. Fatty, starchy, sweet foods are good to warm the body but we must not eat too many foods to warm the body but also foods to make body grow. Foods to mend the body and make it grow large and strong. Milk contains all. Bread, made from wheat-flour. Oatmeal, beef, fish, poultry,—good meat. Pork not a safe meat to eat. Eggs, peas, beans. Turnips, cabbage, tomatoes, celery, beets, lettuce. In summer to be cool eat foods that will not heat the body. Fruit (ripe) good in summer.

IV. WHOLESOME LIQUID FOOD—WATER.

Live longer without food than without water. Reason so necessary. Three-quarters of our bodies by weight is water. Water in the mouth helps to prepare food for swallowing. Water found in stomach helps digestion. Water in blood helps blood to flow easily through the body. Flesh—soft and tender. Would be hard and dry were it not for the water. Water cleans the inside of the body. As the body wears away, water in the blood soaks up the worn-out matter and washes it away. Water in the body is not always the same. Water passing out on a cold day, we can see —like a little steam—does same on a warm day—we do not see it though, as it is passing from our mouth. It passes from our body in the form of perspiration. The water that leaves our body every day must be made up by taking in more. Water need not come in the form of a drink but in food. Rice—swells and soaks up water. Juicy fruits contain water. Why get thirsty after running? Perspire—water leaves the body and need water to take its place. Thirst tells us the body needs water. Pure water. Boiled. Know impure water by smelling or tasting it. Never drink water that is near a cemetery, barn-yard, pig-pen or water flowing over an unhealthy place.

V. PROPER FOOD FOR CHILDREN.

When we are growing our bones need lime to make them strong and hard. If we eat the right kind of food we get enough lime for our bones. Cake—white bread are not good when we should be eating oatmeal and Graham or whole wheat bread. Where do we get lime? not eat it clear. Grain growing takes lime out of the earth—eat bread and other foods made from grains. Cow gets lime in grass—we get lime in the milk that we get from the cow. If children do not have enough lime in food, the bones become weak and small. Blood made from food. If we eat the right kind of food, the blood carries to every part of the body, the kind of food every part needs. Bones get what they need for making more bone; the stomach gets what it needs; no part is left to starve. But if we eat cakes and candy when we should eat bread and butter, some parts of the body will go hungry. Blood will not have in it what all the parts need. Blood must be kept pure by fresh air—exercise outdoors. Good food makes bones strong, muscles firm, brain good thinker. Children need more food than grown people because children are losing strength more rapidly in their work and play.

VI. PROPER MASTICATION OF FOOD.

Care of stomach—not made to chew food—give it only its proper work. Teeth made to chew food not stomach. If stomach is made to chew food instead of teeth it will become too tired to do its own work well.

VII. EFFECTS OF TOO RAPID EATING AND OVEREATING.

If you eat too much you make your stomach do more work than it ought, and you will be likely to tire the stomach with overwork. Stomach not made to work all the time; it needs a rest as much as you do after running or playing. Everything you swallow has to go in the stomach, as there is no other place for it to go. The stomach must get rid of it. Therefore remember this when you see something you would like to eat, but know that you have eaten enough already.

VIII. THE TEETH.

Two rows of cutters or grinders. Hard, white and of different shapes. Front teeth for biting off food; back teeth for chewing, grinding. Part of tooth we see is called the crown; protected by thin covering called enamel, which looks like ivory; hardest substance in the body. Part we cannot see is called the root and it is firmly placed in the jaw. Teeth are fed by some of the food which they help to prepare for nourishment. They are not selfish. Do not take food as they prepare it, but wait until their turn comes. The first teeth (20) are small. At six or eight years of age when the jaw begins to grow larger, these teeth loosen so they can be taken out easily to make room for the second or permanent set. The permanent set, thirty-two teeth; sixteen in each jaw. Front teeth small and sharp—cutting or biting food,—double teeth "grinders" do the hardest work—crush or grind food. Last four teeth to come are wisdom teeth—after a person is twenty years old they come. Why called wisdom teeth?

IX. CARE OF TEETH AT HOME.

Teeth brushed after every meal; food left in teeth has a bad effect on the enamel. If the enamel is destroyed it never forms again, and the teeth decay or crumble. If food is not removed it renders the teeth unpleasant to look upon and the breath offensive. Use a quill or wooden toothpick to clean the teeth—never in the presence of others. Take care of both sets of teeth. Never use a pin near them. Never use them to crack nuts or bite thread. Do not let anything very hot or very cold come against the teeth. Heat and cold may cause the hard covering of the teeth to crack.

X. CARE OF THE TEETH—DENTIST.

Everyone, young or old, should visit a dentist once or twice a year to see if his teeth need attention. If the enamel is injured he can prevent toothache and serious consequences if he knows it in time. We must do as they advise us, as dentists and doctors are very good friends to us.

XI. IMPORTANCE OF GOOD TEETH.

Good teeth not only look nice but keep our entire body in condition, as chewing our food well is the first step toward good digestion.

XII. ALCOHOL.

Good ripe fruit is a good food. Sweet juice of good fruits made into poisonous drinks. It seems a pity to have good fruit spoiled to make drinks that harm us. Wine—grapes. Crush grapes in a press, squeeze juice into a big tub. Dust on grape skins is carried into tub as the juice is pressed out. There are ferments in this dust; these ferments spoil the good grape juice. Juice of grapes is sweet; sugar is formed in the grapes while the grape is ripening. The ferments change this sugar of the grape-juice, after it has been pressed out, into a gas and a poison. Cannot do this while the juice is inside of the unbroken grape, for they do not get inside the fruit while it remains whole. When the juice is left standing in the tub, the ferments that were on the skin and stems of the grapes, work on the sugar of the juice; other ferments from the air get into the tub also. We know when the ferments turn the sugar into a gas or poison by the little bubbles we see rising through the juice. The gas passes out into the air but the poison remains in the wine and makes the wine poisonous. The name of this poison is alcohol. Cider made from juice of apples. This ferments and contains alcohol. Some drinks that have alcohol in them are made from grains—barley, rye, corn. Grains contain starch, starch changes to sugar when you eat it. Starch in grains turns to sugar if the grain is kept warm and moist.

XIII. TOBACCO.

Plant, the leaves of which are used for smoking, chewing, making snuff. Snuff-taking almost ceased. Chewing is an injurious, untidy habit; breath offensive; juice cannot be swallowed; clothing likely to be spotted. Smoking—tobacco, a poison; injurious to the body; tobacco has a poison called nicotine which destroys the nerves and the strength.

XIV. EFFECTS OF ALCOHOL AND TOBACCO UPON THE PHYSICAL GROWTH.

a. *The Effect Upon the Bones.*—To keep bones healthy we must avoid poisons. We learned that the blood feeds the different parts of the body. When we eat or drink anything poisonous, the blood takes it up and carries it to all parts of the body. Tobacco is a poison. It injures the bones. It is harder for the bones to heal when broken, if they have been poisoned by tobacco. Alcohol is also a poison. It deprives the bones of some of their food and leaves in place of it a mineral that makes them more brittle.

b. *Effect Upon the Muscles.*—As the blood carries food to all parts of the body it carries poisonous substances, if we use them, as well as food, to the muscles, just as it did to the bones. Tobacco makes the muscles thin and weak; they cannot give the help that is needed, if they have been poisoned. Alcohol makes the muscles weak and unsteady. Should we injure a muscle, it will not heal as it should, as the alcohol destroys some of the nourishment that the blood tries to carry to the injured part, and leaves in place of its natural food a poisonous substance.

c. *Effect upon the Skin.*—The skin of those who use tobacco becomes sallow or yellow and pale. Gives the body an unpleasant odor and discolors the skin. Alcohol gives the skin an unnatural redness. Alcohol interferes with the escape of perspiration and the little tubes and pores of the skin are not kept open as they should be. The skin loses its beauty and softness.

d. *Effect upon the Heart.*—Explain the action of the heart. Tobacco makes the heart beat faster than it should. It weakens it and makes it unsteady. Alcohol causes the nerves that keep guard over the blood-vessels or tubes to become weakened and enlarged, the blood flows with greater force through them, and the quantity in the skin is much increased. The heart has to work faster to keep the enlarged blood-vessels full. When the effect of the alcohol has worn off, the heart is left weaker because of its extra work, and the blood has lost much of its necessary heat. The person that has taken the alcohol becomes *weaker* and *colder* instead of stronger and warmer. Alcohol produces an unhealthy fat in the muscles of the body, which makes a person weak instead of strong. The blood undergoes a change, which prevents it from nourishing the body.

e. *Effect upon the Lungs.*—Tobacco smoke injures the delicate lining of the nose and throat and the little tubes that take air to the lungs. The breath of a person who uses tobacco always smells very bad. Air that has tobacco smoke in it is unfit to breathe. It is bad enough for a person to spoil with tobacco smoke the air he has to breathe himself, but it is worse for him to spoil in this way the air which other people have to breathe. Alcohol is as bad for the lungs as it is for the bones, muscles, skin and heart. (Short talk on the appearance of the lungs.) When one has poisoned his blood by drinking wine or beer, the lungs help to get rid of the poison. Some of the alcohol passes out of the blood into the air-cells of the lungs and is breathed out with the other impurities in the form of a vapor so fine that it cannot be seen. It is this that gives the sickening smell to the breath of the person who has been taking these bad drinks. This alcohol hurts the delicate air-cells of the lungs. It causes the small blood-vessels to stretch and makes the lungs more liable to colds and coughs. It often causes hoarseness.

f. *Effect on the Stomach.*—Tobacco contains a strong substance that is dissolved by the saliva and thus gets into the stomach. This weakens the stomach and makes it less able to keep up the churning motion that mixes the food with the juice of the stomach. Tobacco smokers and tobacco chewers are troubled with weak stomachs. Alcohol hurts the tender lining of the stomach, as it does the delicate air-cells of the lungs, and when much of it is used it often makes sores in the inside of the stomach. Alcohol also injures the gastric juice and makes it unable to dissolve the food as it should. Alcohol also hardens the food in the stomach and makes it less easy for the gastric juice to dissolve. In these and other ways alcoholic drinks give people weak stomachs.

SUMMARY:

1. No wise boy will stunt his growth with tobacco or alcoholic drinks.
2. Alcoholic drinks and tobacco are enemies to good muscles.
3. Alcohol does not help a person to bear heat and cold.
4. Alcoholic drinks tire the heart by making it beat too fast.
5. Do not injure your lungs with tobacco and alcoholic drinks.
6. No drink that has alcohol in it is good for the stomach.

Smoking or chewing tobacco injures the stomach.

XV. EFFECTS OF ALCOHOL AND NARCOTICS UPON THE MIND.

The brain needs a great deal of blood, and like other parts of the body, it needs good blood. Blood that is made impure by improper food makes the brain dull. Alcohol is a poison that injures the brain and nerves. The drunken man reels and staggers as he walks, because his brain is injured with alcohol. He is almost as badly off as he would be if his brain were stunned. His nerves cannot carry messages correctly to his muscles, and his brain is so deadened that it cannot receive or send messages correctly.

Alcohol causes the little blood-vessels in the brain to stretch and let too much blood flow to the brain. The brain becomes deadened and the person that has taken the alcoholic drinks becomes excited, talks loudly and foolishly or gets angry. A brain that is often injured by alcohol soon becomes very different from a healthy brain. The alcohol causes it to shrink and harden. It cannot think so well. Alcohol is a brain and nerve poison.

Tobacco dulls the nerves and makes the brain stupid. To be wise and good one must have a good brain, but we cannot have good brains if we poison them with alcohol or tobacco.

If we want to have good senses, we must have good nerves and a good brain. The nerves of sight are sometimes badly injured by alcohol and tobacco.

A small quantity of an alcoholic liquor makes the sense of hearing less keen for a short time, while a continued use of alcoholic drinks often blunts the sense of taste so that a person does not taste delicate flavors. Tobacco also blunts the nerves of taste.

Our senses were given to us for use and enjoyment. To needlessly injure them by taking into our bodies things which are by nature poisonous is to injure our chances of success in life and to deprive ourselves of a great deal of pleasure.

English and Nature Study—2A and 2B.

By Ethel S. Gilbert, P. S. 126, Manhattan.

THE peculiarities of the New York child's vocabulary are unique. No one can appreciate the fact so well as a teacher who comes from outside the city,—from a small city or town far enough removed to be in no sense a suburb of New York. Used by the New York school child, words take on new meanings, phrases are strangely distorted, and sentences receive emphasis and inflection which utterly destroy their significance.

Especially is this true in those quarters where a considerable portion of the children are European born. Poles, Bohemians, Germans, Italians, send children to school out of homes where probably in the course of a day not one properly constructed English sentence is spoken. Is it surprising that the dialect of Myra Kelly's youngsters becomes, to the teacher, not a quaint fancy, but a tragic reality? The Morris Mogilewskys exist in astonishing numbers! "My mamma says I *shall bring* this note up to Miss Smith,"—"I stayed home yesterday because my tooth ached me,"—"Isidore made a *speak* on the *stairses,"*—these and similar expressions are too common to surprise the teacher. One boy, coming late, astonished his teacher by explaining that at school time his mother had been "putting him on." The teacher's first conclusion was that this was a slang phrase to express some form of maternal chastisement. She learned that it meant only that at school time he was being dressed. A common excuse for lateness is: "I *stood up* too late," *"stood up"* meaning "rose." *Sawr* and *sawn,* for *saw, "youse"* for *you* and *your, "learn"* for *teach, "off* for *of,"*—these are the rule rather than the exception. Statements are made with rising inflection, like questions.

Often the child has no idea of the common English word he needs. For instance, one boy begged to go home because he was hungry. He had risen late, and "Miss Gray, I didn't get my *to eat."* He had no knowledge of the word *breakfast.*

In story telling the great stumbling block is the "and." It should rather be called a source of trouble, for it is anything rather than a cause for tripping or stopping. It is only by constant care that the child is taught to end sentences, beginning afresh with a new thought. The more of good English a child hears and speaks the better able he becomes to use it. Slowly but surely the correct form will supplant the other. Probably the conversation hour is the one most prolific in opportunity for the correction of common errors. Some teachers, in the conversation period, require the child to follow a fixed line of thought,—to answer set questions in a set way. This is far from being conversation. Spontaneity should be the chief characteristic of a conversation lesson. While, in the teacher's mind, the idea of the *lesson* is never lost, the thought that it is a lesson at all should be kept far in the background as to the children.

In stories, poems, legends, fables, is found a vast amount of material which protrays the beauty of common things much more successfully than could a formal class-room lesson. The few volumes in the class library of the 2 A which seem most useful in this way are: "Fairy Stories and Fables" (American Book Co.), "Child's Book of Poetry" (Maynard, Merrill & Co.), "Rhymes and Fables," and "Ship Literary Readers." Robert Louis Stevenson, Eugene Field, Lucy Larcom, Mary Howitt and others provide excellent additional material.

Personal experiences of the teacher are usually far more interesting to the child than a "book story." Not every teacher has been blessed with a free, happy childhood in the country. She who has picked thousands of violets in some old apple orchard, with the pink blooms overhead; who has sat for hours watching the wild creatures of wood and field as they live *at home* has much for which to be thankful. In reviewing their knowledge of the squirrel, one class enjoyed beyond all the rest, the story of the red squirrel family which made its home in an old butternut tree near the house where teacher lived "when she was a little girl." In this class a hint of a story of this sort brings instant attention. "It's real," as one boy said; "Why, teacher knows what train to take to get to where it happened." It is the same with the horse that was given teacher as a colt. That class know his gentleness, his trustworthiness, his habits, almost as well as the teacher herself. They have been with her in imagination.

In the prescribed Nature Study group of camel, deer, goat and sheep is a specially rich field for fable and story correlation. "The Wise Goat," "The Three Goats Named Bruse," "The Goat Which Fell in a Well,"—all these are at hand. "The Camel and His Master" is in the same volume, "Fairy Stories and Fables." Much of the material should simply be read to the class. The short fables are better told and reproduced. A particularly pretty poem can be memorized, at least in part.

Bird lore is common. Here again stories from one's actual experience are useful. The robin family in the apple tree near the house where one New York teacher spent last July interested her very much. She found that the story of the friendly little mother bird had a peculiar fascination for the class when she taught the "robin" this spring.

The fable of "The Grasshopper and the Cricket" is one that boys find easy to "act out," and it emphasizes the difference between these insects as to habits and characteristics.

The legend of the origin of the sunflower is a graceful story for reproduction. The imagination is cultivated, and the general facts about the flower impressed. The sowing of seeds, watching the germination, caring for the plants, etc., can be used as the basis for little morning talks which need not be at all dull or prosy.

Many pretty little poems and stories can be found in current periodicals if one bring intelligent taste to bear in their selection. Often a long story contains points which taken out and abridged make just that which "fits in" best with the work of the class. For instance, several months ago the *Ladies' Home Journal* published a charming story of the way a squirrel made friends of the occupants of a summer cottage. This was found very useful. The April number of *Scribner's* magazine contains "The Camp of the Good Fairy,—a story specially adapted to this sort of reconstruction. It makes the little squirrel "hero" seem almost human. No boy who hears the story can be quite thoughtless of the life of a squirrel again. A real live boy figures in it all, too.

Whatever develops naturally from the class-room conditions of a particular day, from a conversation, from a lesson, is far more interesting that anything dragged in bodily, just to get it in. Because a poem was taught successfully to last term's class is not in itself a good reason for teaching it to this term's. In fact, it may constitute a very good reason for looking for something new. The teacher is too familiar with it to bring to it the fresh energy that she gave to it the first time. Besides, some of the "left back" children know it already, and it is *fatal to bore!* It might be brought to the attention of the class if it be a particularly choice bit by calling on one of the last-term children to recite it.

One of the very bitter days last winter, the teacher found in her day's plan a conversation about the beaver. The windows over the radiators had begun to frost over, and the children immediately noticed it. Quickly deciding upon a new plan, the teacher encouraged comment upon what could be seen upon the different panes. Theodore, who should be a poet when he has a few more years added to his age, saw, "Palms, Miss Gray, —tall, tall palms. And there are birds with wide wings that sweep,— so!" Three days that week the severe cold continued, and each day some notice was taken of the frost. Then a lesson from a supplementary reader was given, a cute "Jack Frost" story. The copied sentence was taken from a boy's statement: "Jack Frost pinches our noses." This poem was taught:

"JACK."

1.

There's a lively little fellow who's as busy as can be,
Making pictures on our windows,—flower, and bush, and stately tree,
There are moss, and fern, and spreading palm, and birds of graceful wing,
There are dainty little fairies in a happy, dancing ring.

2.

Who would think this skilful artist could be such a saucy scamp?
For he pinches nose and fingers, on each cheek puts ruddy stamp!
He's the Jester of the Winter, and without him we'd feel lost,
Have you guessed who is this jolly imp? Then listen! He's Jack Frost.

Near Christmas time the conversation lesson one day suggested these lines, which were afterward made use of in the Christmas celebration by the little folk:

MY WISH.

1.

I'd like to be old Santa,—guess I would!
To be so fat and jolly, and so good!
To wear a coat of fur, to drive a sleigh,
To have six reindeer racing all the way!

2.

I'd have a fat, red face, and one big smile,
And I'd be making presents all the while!
Oh, everybody 'd love me,
I just guess.
Would I like to be St. Nick?
Oh, my! yes!

The butterfly, in its metamorphosis, is a most interesting study. The children watch the cocoon with the greatest interest. A little poem which impresses some of the lessons learned is this:

THE BABY.

There is a queer, funny babe lying all warm and snug,
Sleep, little baby, sleep!
A cocoon is his cradle, as warm as a rug!
Sleep, little baby, sleep!
The cold winds may blow,—they do not alarm him,
Deep lies the snow,—his cradle doth warm him,
His wings will grow, and nothing shall harm him,
Sleep, little baby, sleep!

THE BUTTERFLY.

But when Spring comes to us, sunny and glowing,
Wake, brilliant butterfly, wake!
Flowers are blooming, and sweet zephyrs blowing,
Wake, brilliant butterfly, wake!
To taste the sweetness in lily-hearts lying,
To show the sheer joy of life in thy flying,
All the winged creatures with thy beauty vying,
Wake, golden butterfly,—wake!

It is hard to be compelled to confess, but not all the faults in English are to be found either in the homes of the children or in anything outside the teaching force. When the teacher sends a boy to the supply department for "pen points" repeatedly, of course he absorbs the terms. "Bring" and "fetch" are two words constantly misused by the teachers themselves. Let us be on our guard so that our children shall hear at least from us none but the best.

Nature Study in 2B.

By **Gertrude B. Hunter**, P. S. 11, Manhattan.

The value of a lesson in Nature Study lies in the child's part of the *study*. In grade 2B the children are too young to know how to study by themselves, therefore much of the responsibility of the *study* of nature lies with the teacher and depends on her method of presenting the lesson.

Before we can *study* NATURE, we must have nature itself to work from. Pictures, blackboard sketches, stuffed specimens, etc., are never as good as the living objects, for the children can not get a perfect concept of the object for which this substitute stands. How soon little children acquire the habit of looking for certain characteristics in all the animals or plants or birds they study! This same line of thought they begin to apply to what they find outside of the schoolroom. They report their observations to their classmates, who in turn observe for themselves.

An added interest is immediately created if the children help to collect specimens for class study. How they love to collect live insects for classroom study in the early fall! All the special insects for our grade came to us alive this fall. (See list for month of September.) Many flowers, too, were contributed by the children; yet the special flowers suggested for 2B *we* ourselves will probably supply. The vegetables and fruits are always easy to find! It is the bird and animal lessons that make us resort to pictures and stuffed specimens oftenest. We had one lesson on a live bird, but with the other birds we had to do as best we could with talks, stories, pictures and stuffed specimens. At Thanksgiving time, however, we were able to get a turkey with the feathers still on. The children thoroughly enjoyed this lesson.

By the time Thanksgiving had come we had covered all the vegetable study work for the term. As an aid in reviewing that work, each child was invited to bring any vegetable he liked best, and to be able to tell four things about how it grew, and to tell me how to plant it and make it grow again. As each child made his contribution other children were allowed to supplement the facts already given until a comprehensive review of all the important facts were given. Some of the vegetables that were brought in that day were, potatoes (white and sweet), cabbage, cauliflower, Brussels sprouts, radishes, dried peas, beans, a carrot, a parsnip, a piece of pumpkin and the seeds, an onion and a turnip. At the end of the lesson the vegetables were wrapped each by itself and were distributed for home planting. I had some seeds on hand to be given with the radish, cabbage and pumpkin. When the baby vegetables sprout and grow they are to be warmly wrapped and brought to school for insepction.

A nature study lesson furnishes an excellent opportunity for correct use of English. Each observation when expressed in words should constitute a complete English sentence. New words and expressions may be correlated with every lesson but we must be careful *not* to put *more* stress on the *language* than we do on the main object of the lesson,—the *thought itself.*

The statements given by the children may be jotted down on the blackboard as the lesson progresses. This will aid the children in their summary of the lesson. Or, after all the points have been brought out, it is an excellent drill for the children to give an *oral* summary of the lesson with as little help from the teacher as possible. When help *is* needed, another child can usually give that help. It is a good drill for several children to tell all they can remember about the lesson. This, however, is not Nature Study, but is language work correlated with nature study. Supplementary reading, a little stanza of poetry, a story, a dictation exercise, spelling or drawing can be advantageously correlated about the facts learned through Nature Study.

Realizing that every Nature Study lesson should be given from the object itself, we must plan our nature supplies some time ahead, and the lesson must be given when the live specimen can be most easily secured. This may be a suggestive arrangement for the lessons in the course of study.

MONTH OF SEPTEMBER.

Plants.—Study specimens of whole plant; save seeds. Recognize and name the flowers.

Butter and eggs. Morning Glory. Petunia. Marigold. Nasturtium. Sunflower.*

1. Study. 2. Mount Plants. 3. Save Seeds.

* Correlate myth of Clytie and Apollo with sunflower. See Normal Instructor. Sept., 1902.

Seeds.—Plant seeds of pea, bean, corn and tomato for next month's vegetable plant study.

Study from nature dispersal of seeds: children gather seeds for class study. Study especially

Dandelion. Thistle. Milkweed.

Insects.—Children help to collect them outside. They can be kept alive in glass jars with a bit of mosquito netting over the top, if a small piece of sod is placed in the bottom of the jar. Study especially

Grasshopper. Cricket. Potato beetle.

These depend on plant life and at the same time assist plant life. They must have sun and rain. Finally these specimens may be mounted on bits of cork for the class collection.

Trees.—Observe leaf buds just forming for another year's foliage, before this year's leaves fall.

MONTH OF OCTOBER.

Vegetables.—

Corn. Peas. Bean. Tomatoes.

Compare the little plants that were sown last month with the mature plants. Manner of growth; flower; vegetable; seed.

Fruits.—

Grapes. Quince. Lemons. Dates.

Study seeds and wrappings.

Birds.—Departure of birds. Those that have already gone and those that are going. Special lessons on

Vireo. Humming birds. Phœbe. Golden crowned kinglet.

Natural Phenomena.—Chart of winds and clouds day by day.

MONTH OF NOVEMBER.

Vegetables.—Easily procured. Cauliflower (a flower). Cabbage (a leaf). Brussels sprouts (stem and leaf combined). Radish (a root).

Plant; Bulbs for spring blooming.

Birds.—Special lesson on Turkey (cf. chicken or goose).

Owl. Gull. Goldfinch.

Trees.—Limbs bare yet leaf buds well protected.

Chestnut. Hickory. Sweet gum.

Natural Phenomena.—Weather Chart. Record sunshine and rain. Conditions of atmosphere. Cloud study continued. Day and night.

MONTH OF DECEMBER.

Four Footed Animals.—

Cow. Dogs. Beaver.

Lesson on kindness to animals.

Trees.—Evergreen and bare trees of winter. Study especially

Spruce. Balsam fir. Sycamore.

Natural Phenomena.—Stars; moon and its phases. Keep record of moon's phases as observed by the children each day. Let it include day and night; moon and stars; sunshine and rain or snow.

MONTH OF JANUARY.

Winter Condition of animals, trees, plants.

Review term's work.

Natural Phenomena.—Qualities of water. Wind's force; visible effects. Weather chart continued. Teach several more short Nature Quotations.

Nature Study—3A.

By Caroline M. Bartley, P. S. 28, Bronx.

SEPTEMBER. Butterfly, caterpillars, metamorphosis, gladiolus, hydrangea, coreopsis, melon. Experiments: Where does sap rise through stem and leaves? Why do leaves wilt?

OCTOBER. Beetle; dragon fly. Wild carrot; dahlia; chickweed; Jamestown weed. Pods; stone-fruits. Horse chestnut; elm; maple; birch. Collecting; naming, mounting of leaves.

NOVEMBER. Mosquito; house fly. Tube rose; burdock. Nuts; burrs, stick-tights; pumpkin; cranberry poplar; ailanthus; sumach; hickory; collection of dry fruits for seeds.

DECEMBER. Goldfinch; crow; woodpecker; bluejay; nuthatch; chickadee; sparrow. Oak; cedar; pine. Experiments: How do leaves move with reference to light? Do leaves give off water?

JANUARY. Owl; ostrich; snipe; eagle; wolf, fox, dog; turtle, snake; lobster, crab; goldfish, minnows.

Love of nature is a source of joy that none can take away. If we think for a moment of what this means we begin to realize why educators place such a high value on the subject of Nature study. When a teacher is a lover of mankind, he is on the right road to becoming an educator in the higher and more exclusive sense of the word.

Nature study in the class-room should be supplemented by out-door work in observation and collection. The course of study will tell us what specimens will be needed in our grade. Flowers, leaves, fruits and seeds are practically available for collection and study in the order in which they are given in the syllabus. When and where to collect are points upon which I will try to throw some light from my own experience.

Collection cannot be begun too early. The flowering plants come first. When school opens the fields and gardens are full of flowers. The child should become acquainted with the plant as a whole and as a growing product. Experiments in regard to the presence of sap should be made, the dependence of the growth and fresh appearance upon sap, the close relation of sap and water should be brought out and why leaves wilt.

Later on, when garden, field and forest unite to charm us, there is an embarrassment of riches. Then the leaves claim our chief attention. The prolongation of the annual festival of fruits and colors is apt to be our undoing unless we have grown wise from experience. We do not feel the immediate necessity of disturbing any part of the pageant for our own uses. There will be plenty of material in a few weeks' time, but the character of the material will be changed. Ragged specimens and incomplete sprays will be the penalty of too long delay.

The leaves thin out gradually from September on; but at the end the great change from foliage to leaflessness comes suddenly. By degrees the flaming roadsides subside and the hills become a uniform russet. Then some day we are surprised to see a bare world. There are no leaves on the trees worth mentioning except the great dried branches on the oaks that remain there all winter. There may be a few belated and wavering poplar leaves and some dried fragments on the willows, sycamores and hickory trees, but the impression is one of leaflessness and new perspectives.

We knew from the beginning that the gay colors were fairy gold changing to darkness at a touch of frost—the wonderful, old, vanishing trick! How to get the better of it and gather at the height of beauty? One must have experience. It is safe to gather as soon as the leaves are beautiful. The maples should be gathered first. Sumachs may be left till quite late.

The autumn is the fruit season, the change season. It sees the end of one cycle of growth, the beginning of another. Through all the bareness caused by the dropping of the leaves we see great quantities of seeds of all kinds—berries, pods, burrs, and whole armies of stickers making soft, deceitful patches among the bushes. Now is the time for the seed harvest. In spite of winds and storms many of the pods hang on all winter faded and empty—hollow mockeries to the birds—others hold their seeds conveniently for them and are very noticeable sticking up out of the snow, especially. The means of dispersal at the command of Mrs. Burdock are not at all adequate to the number of stickers produced by this enterprising plant. They may be seen all winter. The seeds of the Jamestown weed make a very interesting lesson on pods.

There are many pleasant walks above Central Bridge along the Harlem and on the ridge overlooking it, and also along the old McCoomb's Dam Road just west of Jerome Avenue. All the trees of our grade may be found there, also all the wild flowers. It is a fine region for the collection of seeds with sharp awns for sticking and seeds with short stickers for imbedding, as you will find if you happen to wear woolly garments.

If the fields are at all accessible we will find the children more than anxious to collect for us. Once started, there is no limit in intensity, area, and duration to the fever of collection they are liable to manifest. Nothing will escape them. They will bring in all sorts of curious, natural products related to their studies and foreign,—treasures which they will pick up at home, that have been added to the family wealth by sailor or traveling friends and relatives, as well as the same leaves over and over again.

Among all the apparently useless things they will bring us we are sure to find something that we or some one near us will need. For this reason and for the satisfaction and encouragement of the collectors, it is well to have everything kept and taken care of, at least for a time. This will necessitate some trouble, but the leaf and fruit season is comparatively short and the employment of a few capable monitors will be a wise institution.

Instead of having the leaves thrown in drawers or heaped upon the window sills until they can be smuggled into the waste basket, if they are collected at once and placed in a large book made of half sheets of blotting paper, with a stiff cover and weights to put on top, they will be ready for future reference and mountings, and that appearance of a litter sometimes inseparable from the pursuit of nature studies will be avoided. Poor leaves should be discarded. After the mounting the surplus leaves may be distributed to be kept or mounted at home. Boxes with compartments are most convenient for holding seed specimens.

Visits to parks and museums is a branch of the work in nature that now devolves on the teacher, not by order of superiors in rank, but by compulsion of his or her own sense of right and fitness. We know that the children ought to visit these places of instruction and under wise supervision. Who can supply this need better than the class teacher? Older pupils are able to go alone, but unless the little ones are at least started by the teacher they do not seem to get there.

Many teachers have tried the experiment and found it too great a trial of their strength and patience. They probably attempted too much at a time. Others have tried it and fallen in love with the results, thereafter making field and museum work a permanent feature of their plans.

Those who are interested in this particular kind of missionary work may find the following hints of use to them:

Before the children can be included in our arrangements we must determine how much time we can spare, how the time shall be divided among the different subjects and how distributed over the term. Those who feel that they can spare very little time will find that taking a few pupils once, early in the term, will have an invigorating effect on the class interest in the subject that will be felt for a long while.

It is useless to plan for afternoon excursions during the fall except at the very beginning when the days are comparatively long. The museums all close when daylight fails.

If one decides that three Saturday mornings may be set aside for these trips, one might be devoted to gathering leaves and visiting the Zoological Gardens, another to collection of seeds from grounds unfamiliar to the children, and the last to visiting birds and animals in museum or park.

The first excursion would naturally come in October, the second in November, and the third in December or January—preferably January as the work should be supplementary, so far as possible.

When deciding on how many children are to go take care to be in a very inelastic frame of mind. It is better in every way to take few enough to care for without causing much tension of the nerves. Eight girls is a good number or six boys. According to these figures not all the class can go during the terms and this gives an opportunity for some fine decisions. A few, chosen according to their ability to talk freely in class of all they see and who see about all there is, may be used as an exciting force to harass the unfortunate ones into getting some one to take them. Unobservant children should be included. One or two of these is enough at a time. A good chance is here given to get closer to one whose goodwill you may be anxious to win. Not many days will elapse before several announcements will be made by the others of visits under guidance of parents or elder brothers and sisters.

Many parents are ignorant of all they may see or else have forgotten about it, and if reminded will take their children as much for the purpose of seeing for themselves and reviving a forgotten pleasure as for the children's sakes. One might tell the class of the life-like figures of Esquimaux in the basement of the Museum of Natural History, of the beautifully mounted birds showing their surroundings and habits and other seductive features of the museums and parks.

In taking the children through the streets it is better to let them walk four abreast, as that arrangement is inconspicuous and convenient for crossing the streets and for surveillance.

It will be wise to have a talk with them before starting. Tell them what a museum is for, why people go there, why they should not be disturbed by loud talking and laughing. Make them observe the rule of moving from right to left. The same rules of conduct apply in visiting the Gardens, Aquarium, Reptile House, etc. If it is necessary to ride caution them how to behave on the cars. Little reminders of this nature will be found indispensable if mortifying blunders are to be avoided. Children who are very well behaved in school are sometimes totally ignorant that politeness comprises more than "please," "thank you" and "excuse me," and being children, cannot very well apply a general rule to be polite. They are surprisingly sensitive, too, and we must be very careful to have them feel that they are welcome to all the enjoyment of the right kind that they can possibly get out of being taken out by the "Teacher." All should be given special details to observe, and should be encouraged to talk within bounds.

The birds of the Fall Term we have always with us. A visit to aviary or museum might sometime be omitted and the children taken to Van Courtlandt Park which simply swarms with birds in the fall so busily picking at the seeds as to seem quite unconscious of spectators.

They would enjoy this occasion very much and would probably imbibe a love for birds which would be of more benefit to them than all they might notice about birds in captivity or all the facts about bills, toes and plumage that they might glean from poor, motionless forms in the glass cases. Who can ever watch the birds in their native haunts and fail to fall in love with them or, the initial step being taken, to love and understand them better?

Arithmetic 3A.

By J. L. G. Curtis, P. S. 13, Bronx

First Month

Oral	1st Wk.	2d Wk.	3d Wk.	4th Wk.
Read to	1000	2000	3000	4000
Roman Numbers to	XX	XX	XXX	XXX
Counting	4's from 1	4's from 3	4's from 2	4's from 2
Combinations	1 3 5 7 9 4 4 4 4 4	1 3 5 7 9 4 4 4 4 4	2 4 6 8 0 4 4 4 4 4	2 4 6 8 0 4 4 4 4 4
Tables	6 x 6	6 x 7	6 x 8	6 x 9
A number of two orders increased or decreased by	10	20	30	40
Measurements	inch foot	yard	pint quart	gallon
Problems in	Addition	Addition	Subtract.	Subtract.

Written				
Write nos. below	1000	2000	3000	4000
Add and subtract nos. below	1000	2000	3000	4000
Multiply nos. of three orders by	6	6	6	6
Problems in	Add.	Add.	Subt.	Subt.

Second Month

Oral	1st Wk.	2d Wk.	3d Wk.	4th Wk.
Read to	5000	6000	7000	8000
Roman Numbers to	XL	XL	L	L
Counting	5's from 1	5's from 2	5's from 3	5's from $\left\{\begin{smallmatrix}4\\5\end{smallmatrix}\right.$
Combinations	1 6 5 5	2 7 5 5	3 8 5 5	0 4 5 9 5 5 5 5
Tables	7 x 7	7 x 8	7 x 9	8 x 8
A number of two orders increased or decreased by	50	60	70	80
Fractions	½ mult. of 2	⅓ mult. of 3	⅔ mult. of 3	¼ mult. of 4
Measurements	1c. 5c. dime	¼ & ½ dol.	min. hr. day	wk. mo. cur. date
Problems in	add and subt.	add and subt.	mult.	mult.

WRITTEN

Write nos. below	5000	6000	7000	8000
Add and subtract nos. below	5000	6000	7000	8000
Multiply nos. of three orders by	7	7	7	8
Problems in	add and subt.	add and sub.	mult.	mult.

THIRD MONTH

ORAL	1ST WK.	2D WK.	3D WK.	4TH WK.
Read to	9000	10,000	\$100.00	\$200.00
Roman Numbers to	LX	LX	LXX	LXX
Counting by	6's	6's	7's	7's
Combinations	0 2 8 1 6 6 6 6	0 2 8 3 6 6 6 6	0 1 3 6 7 7 7 7	2 7 8 9 7 7 7 7
Tables	8 x 9	9 x 9	Drill	
A number of two orders increased or decreased by	90	General Review.		
A number of two orders increased or decreased by a no. of two orders at sight.	10's e. g. 19 17 +19—12	20's e. g. 25 24 +27—19	30's e. g. 32 37 +39—29	40's 47 43 +48—26
Fractions	($\frac{2}{4}$) ½ mult. of 2	$\frac{3}{4}$ mult. of 4	$\frac{1}{5}$ mult. of 5	$\frac{2}{5}$ mult. of 5
Measurements	Reading Time	Reading Time	sq. in. comparison and measure	sq. ft.
Problems in		Simple Denom. Numbers.		

WRITTEN

Write nos. below	9000	10,000	\$100.00	\$200.00
Add and subtract nos. below	9000	10,000	100.00	200.00
Multiply no. of three orders by	8	9	5	6
Divide no. of four orders by			5	6
Problems in		Simple Denom. Numbers.		

FOURTH MONTH

ORAL	1ST WK.	2D WK.	3D WK.	4TH WK.
Read to	\$300.00	\$400.00	\$500.00	\$600.00
Roman Numbers to	LXXX	LXXX	XC	XC

Counting by	8's	8's	9's	9's
Combinations	0 2 8 1 8 8 8 8	0 2 8 3 8 8 8 8	0 1 2 3 9 9 9 9	6 8 9 9 9 9
Tables	Drill		Drill	
A number of two orders increased or decreased by a no. of two orders at sight	50's e. g. 57 53 +59—47	60's e. g. 65 62 +63—34	70's	80's
Fractions	⅗ mult. of 5	⅘ mult. of 5	Drill	
Measurements	cu. in.	form. rect. solids in. cubes	Part one layer of cubes is of whole.	How many times whole cube cont. inch cubes.
Problems in	Simple Federal Money			
WRITTEN				
Write nos. below	$300.00	$400.00	$500.00	$600.00
Add and subtract no. below	300.00	400.00	500.00	600.00
Multiply no. of three orders by	7	7	8	8
Divide no. of four orders by	7	7	8	8
Problems in	Simple Federal Money.			

FIFTH MONTH

ORAL	1ST WK.	2D WK.	3D WK.	4TH WK.
Read to	$700.00	$800.00	$900.00	$1000.00
Roman Numbers to	C	C	Drill	
Counting by	General Review and Drill			
Combinations	Drill on all			
Tables	Drill and Review.			
A number of two orders increased or decreased by a no. of two orders at sight	90's	90's	Drill on all	
Measurements	Objective comp. of ½ and ¼			
Problems in	Division		General Review	
WRITTEN				
Write nos. below	$700.00	$800.00	$900.00	$1000.00
Add and subtract no. below	700.00	800.00	900.00	1000.00
Multiply no. of three orders by	9	9	Review	
Divide no. of four orders by	9	9	Drill	
oblems in	Division		General Review.	

Nature Study—3B.

By N. M. Lee, P. S. 28, Bronx.

"Nature, the old nurse, took
The child upon her knee,
Saying, "Here is a story-book
Thy Father hath written for thee."

"Come wander with me," she said,
"Into regions still untrod,
And read what is still unread
In the manuscripts of God."

FROM his earliest infancy a little child is attracted by life in all its forms. To bring him into fuller touch with his environment and direct his spirit of investigation is the blessed privilege of the teacher.

Nature study in 3B embraces four topics: animals, plants, earth study, and natural phenomena. Early in the fall the study of flowers, fruits, vegetables and trees should be begun. Children living in a suburban locality are always interested in gathering specimens, thus greatly assisting the teacher in her work.

The gladiolus, hydrangea, coreopsis, dahlia, tube rose, chickweed, Jamestown weed and wild-carrot may be observed during different lessons. The pupils should be able to recognize each of these flowers and become familiar with its name and odor.

The wild carrot grows in great abundance in the fields and roadsides of the Bronx. This being a common flower the children will be interested to know its three names, wild carrot, Queen Anne's lace, and bird's nest. The second name is given to it because of its resemblance to beautiful lace, and the third because of the nest-like shape of the flowers as they dry. This little nest makes the flower a charming bower for a bee.

No detail should be attempted in the study of these flowers. The child's eyes should simply be opened to the beauties about him.

During this season the fruits and seeds should also be observed. How seeds are protected when ripening, how they are adapted for dispersal by wind, water, birds, and hairy animals should be brought to the child's attention. A great deal of information about seeds may be obtained from the reader called "The Plant Baby and Its Friends." A very interesting book upon the subject of seed dispersal is "Little Wanderers," by M. W. Morley. In this book there are to be found chapters upon seeds that fly with plumes or down, seeds that fly with wings, seeds that fly without wings or plumes, other seeds that are moved by the wind; wanderers that cling, wanderers that float, seeds that animals like to eat; and seeds that are shot away.

In the study of trees children must closely observe the shapes of the trees in the woods and open places. Outdoor observations are of the utmost importance in all lessons on trees. In beginning the study of trees select the one the child can observe most conveniently. Awaken their interest, have them feel it is their tree. Suggest to them that it would be interesting to keep a note book in which one could write the tree's story. They should observe the size, shape, bark of trunk and large branches, where the tree grows, its buds and the wood.

It is a poor locality indeed which cannot boast of one maple tree at least. This would make a good tree to study. The idea should be constantly kept in mind to study trees common in the neighborhood.

The pupil's attention should be directed to the external appearance of the mature stem. Twigs in their winter condition should be observed. It would be well to procure a twig of horse-chestnut about eighteen inches in length. The general character of the bark of the twig should be observed, also the leaf scars which mark the places where the bases of the leaf-stalks were attached; the ring of narrow scars around the stem in one or more places, and the different appearance of the bark above and below such a ring. The buds at the upper margin of each leaf-scar and the terminal bud at the end of the twig should also be noticed.

Attention should be called to the bright autumn coloring of the trees. The following lines by Whittier make a beautiful description of the autumn foliage and also a good poem for correlation:

"Autumn's earliest touch had given to the woods below
Hues of beauty such as heaven lendeth to its bow
And the soft breeze from the west
Scarcely broke their dreamy rest."

Another poem to be used in this connection is, "October" by Helen Hunt Jackson. Lead the children to look for poems about the trees and to notice how the poets loved the trees. There was an idea among the ancients that trees were human beings who were obliged to remain in one place. Stockton's story "Old Pipes and the Dryad" will interest the children. Andersen's "The Old Oak Tree's Last Dream" and "The Fir Tree" may also be read in connection with the study of trees.

Hand in hand with the study of trees comes that of the birds. In all the suburban districts children should be encouraged to keep a bird calendar in which they may write a description of any bird they may chance to see. It is also a good plan for the teacher to keep a number of colored pictures to assist the pupils in identifying the birds.

Charles Conrad Abbott in his book, "The Birds About Us," gives the following descriptions of some of our resident birds—The Woodpeckers. "As a class the woodpeckers live on trees and find their food by hunting the insect-life that lurks beneath the bark. They can run over an upright trunk of a tree with great rapidity, and move too in a sidewise manner that is as quick as direct upward travel. Their beaks are solid, sharp, and so fashioned that wood may be readily cut away, and this work so frequently indulged in has given rise to the common name, woodpecker. They nest in trees, cutting a deep hole in living or dead wood, as they see fit, and without any lining other than a few fine chips in the very bottom of the excavation, lay therein a few pure white eggs. So fond are they of working in wood that they sometimes make elaborate nests in midwinter, and abandon them without so much as once resting there overnight.

As musicians, some of them are excellent drummers, but as vocalists, not one of our United States species is a success. They can call, squeak, squeal, and splutter, but I know of no other utterance not described by these forbidding terms. But as drummers they claim our attention. There come in course of time late autumn days when the leafless woods are silent. There is the warm sunshine on the forest floor; there is the lingering green of holly and cedar, but the day is dead. Not even the brilliant scarlet and golden berries of the bitter-sweet tempts any bird. It is all the bitterness of loneliness,—nothing of the sweet of company. The beauty of the Indian summer has led you out into a deserted world, and every thought is tinged with melancholy. You are ready almost at the outset to return, when suddenly, afar off, there is a rapid drumming. The life you hoped to see and hear is returning. Listen! The loud chirps of hidden sparrows are a response. The woodpecker again and more violently beats his drum, and now a sleepy cardinal awakes and sounds a few clear fife-like notes in reply. When this has been your experience, as it has so often been mine, you will learn to love the music of even a woodpecker.

Owls. "We now come to a strongly-marked family of birds that have always attracted much attention to themselves, principally because their active day is our night. It is not true of these birds—the owls—that they can only see when we cannot and that they are only active when the day is done. There are some that are diurnal, and the others are more strictly crepuscular than nocturnal. An owl is by no means helpless if driven from his retreat at noon, but is, of course, not the alert, intelligent, active bird that we see voluntarily coming out in the gloaming, and with great staring, but not stupid eyes, surveying the land prior to a night's hunt for mice or small birds.

The Blue Jay. "The blue jay is a resident bird, and a thoroughly bad one as we see bird-life; but in truth what the jay does openly many a "dear innocent" does behind your back. There is a smack of original sin in every bird that flies. I have seen a dove with red-hot temper. The blue jay builds a large nest of coarse sticks and seems to care little about its being conspicuous and is ready to defend it, as I can testify. I undertook to remove a young bird nearly ready to fly, when I was attacked by both the old birds and struck not only by their wings, but pecked."

The Crow. "It would seem entirely unnecessary to refer to the crow. Everybody knows the bird at sight and supposes he knows the details of his mind, body, and estate, but here "everybody" is mistaken. The ornithologist knows this bird, but the public does not. The crow is a useful bird in spite of the mischief of which it is guilty." Ernest Seton Thompson gives a very instructive account of crows in his story of Silverspot.

The Nuthatches. "The two common nuthatches are the red- and the white-bellied. They are everywhere abundant in the Middle-States from October to April, and in the summer are found northward; but single birds—old bachelors, shall we call them?—do not take the northward journey in the spring, and are seen in the evergreen woods practically all summer. Nuthatches build in hollow trees, making their homes or using an old woodpecker's nest."

Chickadees. "Probably there is no more characteristic bird of the winter landscape of the Northern and Middle States than the black-capped titmouse, or chickadee, as it is usually called. They are happily constituted as to food, and when one supply fails can readily turn to another, and thrive as well on vegetable substances as upon the fat larvæ of insects. They are never silent. It is a matter of chick-a-dee-dee or tsee-deet, or phe-bee, all the day long, the last three notes being a love-call. Of all the birds, they are the tamest, I believe. I have often had them within arm's length, and when so near, to look at me with a curious twist of the head and expression of satisfaction, as much as to say "I'm glad I'm not such a looking thing as that"; and well they may be.

After the study of the birds time might be given to the comparison of the wolf and the fox with the dog. In comparing the wolf and the dog children should observe the teeth of some pet dog and find out the principal characteristics, such as the number, motion of jaws, etc. The wolf depends upon his legs and his teeth for success. Wolves are found in Europe, Asia and America. Wolves hunt in packs and always run on tiptoes.

"I crept along in the darkness,
Stunned and bruised and blinded—
Crept to a fir with thickest boughs,
And a sheltering rock behind it.

"There, from the blowing and the raining,
Crouching, I sought to hide me;
Something rustled, two green eyes shone,
And a wolf lay down beside me.

"His wet fur pressed against me;
Each of us warmed the other;
Each of us felt in the stormy dark,
That beast and man were brother.

"And when the falling forest
No longer crashed in warning,
Each of us went from our hiding place
Forth in the wild wet morning."
—BAYARD TAYLOR.

The Fox. Foxes are smaller than wolves. They burrow in the ground to make their homes. Foxes are noted for their cunning. They have had to contend with so many enemies of greater power that they have become tricky. "The Springfield Fox" by Ernest Seton Thompson is an excellent description of the life of a fox.

In approaching the subject of earth study the teacher will find that a sand table will be very useful. Hills, plains, valleys, slopes, etc., can easily be formed by the pupils and correct impressions made.

In closing let us listen to Emerson as he says, "It seems as if the day was not wholly profane, in which we have given heed to some natural object. The fall of snowflakes in a still air; preserving to each crystal its pefect form; the blowing of sleet over a wide sheet of water; and over plains the waving rye-field; the reflections of trees and flowers in glassy lakes, the musical steaming odorous south wind, which converts all trees to wind-harps—these are the music and pictures of the most ancient religion. He who knows the most, he who knows what sweets and virtues are in the ground the waters, the plants, the heavens, and how to come at these enchantments, is the rich and royal man."

English—Third Year.

By CAMILLA E. FUESLEIN, P. S. 15, Manhattan.

THE CONSTRUCTED PARAGRAPH. THIRD YEAR.

TO teachers of the third year grades is given a most important part in the Language Work of the New Course of Study. That does not mean that the work of this year is to be emphasized more than that of the lower grades, for a careful study of the language course shows that the aim has been to lay out the work from the beginning in such a way that the child's progress may be gradual, but nevertheless assured. Each step in advance is so essentially dependent upon the work that has been done before, and the new step will itself so form the basis of what is to come after, that upon conscientious and thorough work in each and every grade depends the success of the whole.

In 3 A the syllabus states, "The pupils should construct statements from questions or directions. The teacher and pupils working together should construct paragraphs," and this in 3 B is expanded into, "The paragraphs constructed may consist of short simple stories, descriptions of objects or explanations of simple processes. Special attention should be given to the sequence of thought in constructing paragraphs." This, then, is the time when the relation of thought to written language is to be brought home to the child. It is a most important part of the language work, for the expression of the thought not only in a single sentence, but in the proper grouping of several sentences all bearing on the same subject or the same aspect of the subject, constitute the foundation of all the child's later composition work, which is to give him the power to express his thought with clearness, force, and in good English.

During the first two years of the child's school life, the composition work has been entirely oral. It has been based on the conversation lessons about the child's interests, on his observation in the nature lessons, on pictures and stories told or read to him. This work has been to develop fluency of language, to increase the vocabulary by giving the child words for his new ideas and thoughts, and to give attention to the continuity and orderly arrangement of the child's thought expression.

In this oral composition work, it is of the utmost importance that the desired result be clearly comprehended by the teacher, and that in every lesson she have a definite aim in view. If the lesson is first clearly and logically arranged in the teacher's mind, she will conduct it in such a way that there will be no haphazard questions on her part and consequently the child's thought will be led along by successive steps, to the short logical summary which the teacher has had in mind from the beginning. Sometimes this summary, or parts of it, may form the reading lesson,—at other times it may simply be given orally.

In 3 A the oral work proceeds along the same lines, with one step in advance, that of having the child give orally a logical statement of the summary, which is placed on the board in paragraph form by the teacher.

It will be necessary to keep the child to the subject, and to bring out the successive points by questions or suggestions. Most of these first exercises should consist of one paragraph only, and drill should be given upon the order in which the sentences are placed, making the child realize that the second sentence depends on or must follow the first.

The conversation lessons based on Hiawatha's childhood, which is to be read to the class, might be used for such paragraph work.

HIAWATHA'S WIGWAM.

(1) Hiawatha lived in a wigwam. (2) The wigwam stood on the shore of the Big-Sea-Water. (3) The water before the wigwam was bright and sunny. (4) Behind the wigwam rose the dark and gloomy forest.

After the above has been obtained from the class and placed on the blackboard, by further questioning and suggestions dwell on the following points:—

1st sentence tells where Hiawatha lived.
2nd sentence tells where the wigwam stood.
3rd sentence tells more about the wigwam,—tells what was in front of it.
4th sentence tells more about the wigwam,—tells what was behind it.

Using a fable the oral reproduction will give the teacher the following paragraph:—

THE DOG AND HIS IMAGE.

A dog was carrying a piece of meat in his mouth. He had to cross a river. As he looked down he thought he saw another dog, with a bigger piece. He dropped what he had and jumped into the water after the other piece. He lost both pieces then, because he was greedy.

Summarize the construction for these points:
I Sentence—Tells about the dog; what he was carrying.
II Sentence—Tells what the dog had to do.
III Sentence—Tells more of what the dog did and what he saw.
IV Sentence—Tells what else the dog did.
V Sentence—Tells what happened.

Later in the term let the summaries consist of two paragraphs, and choose such subjects that the difference in the central theme of each will be most marked. For instance, in the story of the Fox and the Stork, let the children discover that the sentences in the first part of the story are grouped together because they tell what happened in the fox's house, and that the sentences that tell what happened in the stork's house are grouped in another paragraph.

In 3 B the child is thrown somewhat more upon his own resources. The work is still to be entirely oral on the child's part, but he is to understand better just what is meant by "writing the story" or constructing the paragraph. For this purpose while getting the oral reproduction from several children, put their best sentences on the board without regard to paragraph form. Then in the actual construction of the paragraph lead the children to pick out the sentences which belong together, thus showing them that the sentences in the same paragraph are to be about a central theme.

The constructed paragraphs are to "consist of short, simple stories, descriptions of objects, or explanations of simple processes." This has been the order in which the different steps of this work have been taken up in the lower grades, that is narration, description and then exposition, so the construction of paragraphs should be required from the children in the same order with the simple narrative first, followed by descriptive work and then the explanation of some process.

Our first constructed paragraphs then will be based upon the stories told or read to the pupils. The difficulty here is to select those that will be short and yet interesting enough. For this first work the fable is excellent. It has all the essential points that a model of this kind should have; it is complete and yet not too long; it appeals to the imagination and judgment of the child in the ethical truth that it teaches, and it has a recognized literary value.

Perhaps it would be well at this point to show in what way the study of a model is helpful in this kind of work. Constant attention should be called to the sequence of thought in the different paragraphs that the child meets in his reading lessons. For example in one 3 B class in which "Stepping Stones to Literature III" was used as a class reader, a study of this kind was made from "Hercules and the Lazy Man." Space does not permit the complete outline of the lesson, but these were the points worked for to impress the sequence of thought in the paragraph.

I Sentence—Tells what the peasant was doing.
II Sentence—Tells what happened to him.
III Sentence—Tells what the peasant did.
IV Sentence—Tells what he did to get help.
V Sentence—Tells what answer he received.

In all this work teacher and pupils are to work together, the paragraph to be written before the class on the blackboard. It is well afterward to have the paragraph copied by the class, as in this way the child gains a clearer conception of his own thought when he sees it expressed in the written form.

The fairy tales, folk stories, and nature stories as well as the fable furnish endless material for this kind of work. Particularly interesting for children of this grade are the myths. It is, of course, necessary in all these longer stories that the teacher herself condense them and keep in mind the main points which she wishes the children to give in their reproduction. The stories may, however, consist of more than one paragraph, and the training of the children to know just when the new paragraph is to begin should be the aim in view.

The following lesson was based on "The Story of Prometheus," as given in Firth's "Stories of Old Greece."

The story was read to the pupils in an interesting way. This was followed by oral reproduction in the child's own words. Then questioning on the part of the teacher to bring out just the main points of the story, and the children's best statements placed on the blackboard. These statements were then grouped in paragraph form and written on the blackboard in that form. The paragraph was then copied by the class.

The Story of Prometheus.

Prometheus gave fire to man. Then the people learned to cook their food. They were warm and happy now. Prometheus taught them many more useful things.

Jupiter became jealous. He was angry, too, because Prometheus stole the fire. He had Prometheus chained to a big rock in the sea. The sea nymphs came to comfort Prometheus. At last he was freed.

Other myths may be used as a basis for this constructive work.

In the conversation lessons of the second year, the pupils have been led "to describe their pets, playthings or other interesting objects," and this work in oral description has been carried on in 2 B and 3 A until now in 3 B the oral sentences describing an object are to be grouped and arranged in a paragraph.

The lessons in nature study supply much of the material here, and in proportion as the child has been led to observe clearly and definitely, so will he have the ability to put what he sees into words.

The following is an example of such descriptive paragraphs based on nature work.

The Elm Leaf.

The blade of the elm leaf has a rough surface. Its margin has sharp points like edges of a saw. The apex is sharp and pointed. The petiole fastens the leaf to the twig.

Stories, too, may be used with special attention to any description they may contain. The children may be asked to describe the hero or heroine, or some special scene in the story. These may serve as illustration.

The Pied Piper of Hamelin.

A stranger came to the town. He was dressed in a queer long coat which was half yellow and half red. About his neck he wore a red and yellow striped scarf. At the end of the scarf hung a long pipe. He was tall and thin, with sharp blue eyes and light hair. His friendly smile made the people like him.

He told them, "I am called the 'Pied Piper.'" (Suggested by Browning's poem, "The Pied Piper of Hamelin," which was read to the class.)

SLEEPING BEAUTY'S CASTLE.

After many years the castle became covered by a thick rose-hedge.

Everyone in the castle was fast asleep. The king and queen on the throne, and all their lords and ladies. The horses in the stable, the dogs in the courtyard, the doves on the roof, the flies on the wall, were all asleep. The fire in the kitchen became still. The water stopped boiling. On the trees about the castle not a leaf stirred.

In the room where the spindle stood slept the beautiful little Princess.

Pictures may also be used to advantage in this work. The teacher should ask such questions as will lead the children's attention to the important points of the picture. Guard against the child's saying, "I see," "I see," etc. After helping the child in this way, get him to tell you all about the picture. For pure descriptive work hold the child strictly to what all see in the picture, but later on let there be a touch of imaginative work in having the child tell something of the story the picture suggests. This, of course, takes up individual work and so can perhaps be done better in higher grades, where each child may write what is suggested to him. In 3 B one of the children's suggestions is accepted and becomes part of the story on the blackboard to be copied by all. In one classroom Taylor's illustration of Longfellow's "Children's Hour" was used for such a lesson. The children had memorized the poem, hence the ready use of certain expressions as shown in the following written by one of the pupils.

THE CHILDREN'S HOUR.

We have a picture in our classroom called "The Children's Hour."

It shows us Mr. Longfellow's three little girls "descending the broad hall stair." Alice and Allegra are half-way down the stairs. Allegra is laughing. Little Edith is at the foot of the stairs. She has a doll with her.

They are going to surprise their father.

The explanation of simple processes is the most difficult of the forms of expression and makes the greatest demands upon the child's power of logical thought and his logical expression of that thought. The processes to be explained must not have too many steps involved, and the teacher will have to guard particularly against the "and" habit in the child's explanation. Get the child to explain clearly and concisely some of the processes in manual training or explain certain steps of a problem in arithmetic. Do not let this become a set form of sentences to be repeated by each child, but encourage individuals to tell the steps in their own way, using other words or phrases.

Children are interested in, and will be glad to tell, about their doings at home or on the street. Let them tell: How I set the table; how we sewed the flag; how to make a kite or sail a boat; the game I like best. After an oral lesson on the playing of several games, let the children write from an outline like the following:

MY FAVORITE GAME.

I. Which game do you like to play best?
II. What do we need to play the game?
III. How is it played?

This, of course, calls for individual work, as each child must tell of the game he likes best, and so we have the first written reproduction which is called for in 4 A.

Up to this time the teacher has put the child's oral expression of his thought in the proper written form, and the child's part of the written work has been simply that of copying. Thus close attention can be given to the logical thought in the paragraph, and the teacher should ever bear in mind that training in paragraph structure is the aim of these lessons. Undue stress should not be placed upon the copying part of the exercise, for while all written work should be neatly done, it is not practice in penmanship that should be sought for at this time. The beautifully written paper—the "show paper"—is very essential and valuable in its proper place. It is also excellent to occasionally make use of a paragraph constructed by the pupils for such purpose. But only frequent practice will enable the child to construct a paragraph properly, hence it is important that we emphasize that part of the work which will give the child the required training, for practice in the construction of the paragraph, and plenty of it, is the necessary preparation for the first steps in written composition.

Hand in hand with the work in reproduction there have been essential drills in sentence structure, dictation (capitalization and punctuation), spelling and use of words to prepare the pupil for the written work.

When this is taken up in 4 A, each child is to construct his own paragraph or paragraphs from a given outline. It is nothing more than what has been done orally in the previous grades, particularly during the third year. If that training has given the child a greater ability to express his thought clearly and in a logical way, the difficulty of expressing his thought in the written form, "the co-ordination of mind and pen" will be made easy by practice.

Information on the Work in Nature Study.

By Emma Sylvester, Assistant to Principal, P. S. 186.

IN the following paper no attempt has been made to *plan* lessons: the aim has been to furnish the teacher with the necessary facts upon which to base her work in Nature Study.

A proper supply of material is all-important. Many of the insects and other animals mentioned in the syllabus can easily be studied in the classroom. It has been said again and again that our aim in presenting the work to our pupils is to make them observant, to awaken interest in their surroundings, to cultivate a sympathy and a love for Nature. Then let us avoid elaborate classification and long, scientific names. The instruction should proceed chiefly by means of observation lessons of *living* specimens. It is important that the pupil be taught to look upon the animal in question as a *living* thing; its form and structure are of secondary importance. The child, however, must be taught *how* to observe; the teacher should have a distinct aim in view, and by skillful, well-directed questions lead her pupils to observe methodically. She must teach them *how* to look, and *what* to look for.

The following notes have been collected or condensed from various sources:

BRIEF NOTES ON INSECTS.

The word insect is of Latin origin;—it answers directly to the Greek entoma—cut into—from which we have the word entomology, the science which treats of insects. In the mature state insects are remarkable for the division of their bodies into three distinct parts, head, thorax, abdomen—hence "insecta." The state of development in which insects come forth from the egg is very different in different cases, and the subsequent changes by which the mature stage is reached differ greatly in the various families. Insects are divided into two great classes: I. Those which undergo metamorphia. II. Those which do not.

The former are again divided into: I. Those which undergo a complete metamorphosis. II. Those which undergo an incomplete metamorphosis. The teacher should be familiar with the basis of classification in order to dwell upon certain characteristics. The following will show the different kinds and stages of metamorphosis:

	STAGES.
I. Development without Metamorphosis	**Egg. Immature insect. Adult insect.**

	STAGES.
II. Incomplete Metamorphosis	**Egg. Nymyh. Adult (or imago).**

	STAGES.
III. Complete **Metamorphosis**	Egg. Larva. Pupa (or imago) Adult.

This synopsis, as well as many of the following notes on insects, has been condensed from Comstock's "Insect Life."

The Honey-bee belongs to membrane-winged insects. Hymenoptera. The honey-bee is one of the social insects; it lives in large colonies. Each nest contains a single female, which lays eggs for the perpetuation of the colony. There are a large number of workers whose duty it is to feed the growing larvæ, and to store up honey. The males or drones and the young queens of the succeeding generation are produced only at the time of swarming; the new queens, under fitting conditions, start new nests.

The order Hymenoptera includes bees, ants, wasps, etc. The members of this order undergo complete metamorphosis. The larva is legless and grublike.

Beetles.—Sheath-winged insects—Coleoptera. Members of this order have a pair of horny wing covers (called elytra) which meet in a straight line down the back; beneath them is a single pair of membranous wings; these latter are expanded only when the insect flies. Metamorphosis is complete. The potato beetle is the pest of the farmer, and the enemy of the potato plant. It is said to have come originally from Colorado, where it fed upon a weed similar to the potato plant.

The larva is orange-red in color, spotted with black; it is very sluggish. The eggs are yellow; they are laid in clusters on the leaves of the potato plant. Full grown larvæ go into the ground to transform.

The Lady-Bug is another well-known beetle. It feeds on plant lice and other noxious forms of insect life, and is therefore very beneficial.

Nerve-winged Insects.—Neuroptera. The members of this order are recognizable by the four large wings—nearly equal in size—which are provided with numerous veins. The members of this order undergo complete metamorphosis; the nymphs are usually aquatic and exceedingly active. One of the most familiar members of the order is the dragon-fly. This insect lays its eggs in the water in which the nymph lives. When full grown and ready to transform, the nymph crawls out of the water, slits its case down the back, and emerges. After a few moments it spreads its wings and flies off. Adult dragon-flies feed on mosquitos, etc. —all sorts of injurious insects.

The Mosquito.—The larvæ develop rapidly; after a few days they change into club-shaped pupæ. When at rest the larva hangs with its head down. When disturbed it swims away with a wriggling motion, and sinks beneath the water. The pupa is very active; it is unusual for insects undergoing complete metamorphosis to be active in the pupa state. This pupa state lasts only a few days. Then the skin slits down the back, and the insect works its way out, and, balancing itself on the cast-off skin uses the latter as a raft till its wings are hardened and it can fly off.

The Earthworm.—The earthworm belongs to the class Articulata-ringed or jointed animals. As its name implies, the earthworm lives under the ground. Worms perform an important part in the preparation of the soil. In a way, they may be said to sift the soil. They "tunnel" the earth in which they live, and so help to make the earth loose, so that the tiny roots of plants may grow well and penetrate into the ground without much difficulty. Darwin has called attention to the importance of the work performed by these lowly creatures. He says, in effect, that long before man plowed the ground it was regularly plowed by the worms.

Form.—The earthworm's body consists of numerous rings or joints, each containing tiny hooks, invisible to the naked eye. By means of these hooks the worm moves along and digs his way into the ground. These hooks also enable him to hold fast to the ground—so fast that it is difficult sometimes to pull him up. The body is larger at the head than at the tail; the rings near the tail are also flatter than those near the head. There is a popular opinion to the effect that if a worm be cut in two, each part becomes a new worm. This, however, is not true, for only the head part is capable of reproducing the other portion. The hind part cannot generate a new mouth, hence it soon dies because it cannot take in the necessary food. The tail is used as a trowel to burrow and to tunnel. The worm cannot see, for it has no eyes—indeed, it needs no eyes, living, as it does, under the ground.

Color.—In color the worm is dark, because its body is full of the earth which it has swallowed. It is the only jointed animal which has *red* blood. If the worm is kept out of the ground for a time its skin becomes clear and paler in color. Then, upon examination, one may see the red blood flowing through two long veins—one along the back and one underneath the body. The worm needs plenty of fresh air to keep this blood pure. Its body contains many tiny pores through which the air can reach the blood and purify it.

Food.—The chief food of the worm consists of decayed leaves and stems. It feeds also upon the organic matter contained in the soil. It swallows this soil in large quantities, and then ejects it in what we know as "castings." When the worm gets food into its mouth the segments of its body begin to move in and out and thus push the food along. When it begins to move it stretches out its body as far as it can; next it takes hold of the ground with the "hooks" spoken of above; then the body is drawn up. This process is repeated—the result is a sort of wave-like motion. Worms seldom come up to the surface of the ground except at night or in wet weather. One may often see the "castings" in the early morning or after a shower.

Uses.—It is said that many tons of earth in each acre of ground pass through the bodies of earth worms each season in localities where such worms are numerous. In this way the soil is constantly aërated, and the rich soil brought to the surface. The soil is also enriched by the dead leaves and stems with which the worms line their burrows.

Enemies.—The birds are the chief enemies of the worm. Robins, especially, are familiar with the worm's habits. These birds search for their food early in the morning or after a shower. The robin's sharp eyes spy a worm just emerging from the ground; immediately he thrusts in his bill and draws the worm out of his burrow by main force. Chickens, too, feed largely upon worms, which they find by scratching.

The Spider.—The spider is closely related to the scorpions and to the daddy longlegs. Many species of spiders have been studied. One need not fear them for they seldom bite unless they are attacked. The spider's body is divided into two distinct parts, as shown in diagram I. In the upper part of the body are found the stomach, the most important nerves, and the large muscles which control the head, legs and jaws. The hinder part of the body contains the intestines, the breathing organs, and the little spinnerets, by means of which the spider spins his web. On the front part of the body the spider has four pairs of long, swift legs which enable him to run quickly. On the sides of the head one finds a shorter pair of legs which are used as feelers. The spider can see only for a short distance. The feet are supplied with claws; the long legs have seven joints as shown in diagram II. The two front legs have but six joints. The spider is well supplied with eyes—he carries eight on the front of his head. Near the mouth one finds a pair of mandibles. As a means of defense, the mandibles are furnished with sharp claws; near the end of the claw is a tiny hole—an opening for a poisonous fluid which the spider carries. The spider's eggs require but a day or so to hatch. The young spider is soft, and paler in color than the parent. As the spider grows, it slips off its old skin from time to time, and puts on a new one. The spider has many enemies: birds with sharp eyes and sharper bills are on the watch for him constantly. The house spider looks upon the careful housewife as his enemy. Certain insects lay their eggs in the spider's nest; their young, hatching in the same nest with the baby spiders, eat up every one of the latter.

Spiders may be divided into two classes, according to their habits:—the hunting spiders, which do *not* spin webs, and the web-weaving spiders, which spin snares to catch their prey. The former can spin silk, however; and they often do so to line their nests, or to make egg sacs. The common black spider found under stones, etc., is a hunting spider. Its home is underground, but it comes out to stalk and chase its prey. The eggs are laid in small globular egg-sacs, which are often carried about by the female, attached to the spinnerets. The web-weaving-spiders are of various kinds. Some weave cobwebs; others funnel-shaped webs; some weave their webs on the grass. The web is supported in all cases by strong foundation lines, attached to whatever affords a firm hold in the neighborhood of the web. The spider either rests on the web,—usually in the center,—or lies concealed near at hand.

Clams, oysters, snails and slugs belong to the branch Mollusca or Molluscs. Most of the molluscs are shell-bearing animals; the well-known slug, however, is an exception. The shell may be a bivalve, as in the mussel, scallop, clam, oyster,—or it may consist of a single piece, as in the snail. Molluscs live on land, in fresh water, and in the ocean. The body of the mollusc is not articulated or segmented: it is composed of four principal parts:

$$\text{I. The head} \left\{\begin{array}{l}\text{mouth}\\ \text{feelers}\\ \text{eyes}\end{array}\right.$$

II. The trunk ,containing the internal organs.

III. A foot—which is a thick, muscular mass, not at all like a foot in shape, but which is, nevertheless, an organ of locomotion, enabling the mollusc to crawl.

IV. A mantle, which is really a fold of skin enclosing most of the body, and producing the shell.

Most of the snails possess this typical body, but in many other molluscs, one or more of these body-parts are so joined with another that they cannot be recognized as separate parts: for example, slugs have no shell; clams and oysters possess no well-defined head.

The Clam.—Several species are known. The common hard-shell clam is found all along the Atlantic coast from Cape Cod to Texas. It lives on sandy shores, just outside the low-water mark. It burrows a short distance below the surface. The soft-shell clam is common in all northern waters. This clam burrows deeper than the hard-shell species. It lives in deep holes or burrows in the firm mud or sand.

Let us examine carefully a hard-shell clam. On opening the shell, we note, first, the mantle, a thin, delicate skin covering the outside of the animal and adhering to the inside of the shell. It has a thickened border, which is often dark in color. This mantle built up the shell out of mineral matter dissolved in the sea water. Shells of the clam, oyster, scallop and mussel are composed largely of carbonate of lime.

II. Let us carefully lift the mantle and turn it back. We shall now see the fluted or frilled gills, two on each side.

III. Next note the tubes — two in number — cemented together. Water, containing food and air passes through one tube into the gill chamber; the water furnishes oxygen to the gills and food to the mouth;

the water, having given up its oxygen, and become charged with carbonic-acid gas, is forced out of the other tube, together with all refuse matter.

IV. Then, we notice the foot—a triangular piece of muscle, capable of great extension.

V. The mouth is situated on the side opposite the tubes or siphons, and is surrounded by four flaps. The opening of the mouth is deeply buried between these.

VI. The heart of the clam lies near the hinge of the shell: it consists of one ventricle and two auricles.

VII. Eggs may often be seen immediately under the mantle, and forming a thick white granular coating. The clam, as well as the oyster, possesses a nervous system. Ganglia are found around the mouth, near the foot, and near the siphon; also near the muscular bands which hold the valves of the clam together.

The Oyster.—The oyster is more widely known than the clam. The oyster is cultivated for food in many parts of the world. It has two shells, —one valve is hollowed out to hold the body, the other is nearly flat. The oyster is attached to the sea-bottom by the outside of the hollow valve. When first hatched, the young oyster swims about by means of its cilia; after a short time, it fastens itself to some solid object. Young oysters when first attached are called "spat"; a little later, they become "seed oysters," and may then be transplanted to other beds.

Snails and Slugs.—Many of the most familiar molluscs are snails or slugs. Snails are either aquatic or terrestrial in habit. They differ from most molluscs in one important respect—they breathe by means of a lung; —in reality, a sac with an opening on the right side of the body. This sac is lined with blood vessels: the air passes in and out of the thin walls of these blood-vessels. Pond snails come to the surface occasionally in order to breathe.

Common pond-snails have but one pair of feelers, at the base of which we shall find the eyes: many land-snails and slugs have *two* pairs of feelers, with the eyes at the tips of the second pair. Most snails and slugs feed on vegetable matter, and, where they are numerous, cause much damage to vegetation. Land snails are found wherever there is lime and moisture.

Slugs are nocturnal in their habits; they, too, are lung-breathers. They may be found during the daytime, concealed under boards. The slug leaves a streak of mucus behind him in crawling about.

WORK OF THE GOVERNMENT IN DESTROYING INSECT PESTS.

(Condensed from Department of Agriculture Reports.)

The United States Department of Agriculture was organized in 1862 with this object in view,—to acquire and disseminate among the people of the country the latest and best information on the subject of agriculture in all its branches. Under this head comes the Division of Entomology, which directs all its energies toward answering this question, "How shall the farmer or the fruit grower avoid damage to his crops by insects?"

Experience has shown that the cardinal principle in remedial work against insect pests is this,—the more one knows about the habits and life history of a given species, the better are one's chances of finding an efficient remedy. Many insects can be successfully attacked only in the active feeding condition; with others, the egg is easiest destroyed; in other cases, it is easiest to deal with the insect in its quiescent over-wintering stage. We must not only know how to recognize the insect in its different stakes of development,—we must also know how long it remains in each stage, and how it behaves in each.

Each insect which becomes prominent is studied throughout its life-round, before we can say how it can best be fought. For ordinary purposes, many of these studies are made in the greenhouse attached to one of the buildings occupied by the Division of Entomology, and which is called the "Insectory," because it was built for the study of insects. By careful observation here, the chief facts in the life of the insect are discovered. The accuracy of these observations as related to the development of the insect under normal conditions—*i.e.,* out-of-doors—must be tested by outdoor observations. The farming country around Washington is utilized for such observations. In the case of insects which do not flourish in the climate of the District of Columbia, it is necessary to carry on careful studies in the home locality. Formerly, the Division had field agents in various parts of the United States, but they have been withdrawn since the establishment of the State experiment stations.

During the past twenty years, the government entomologists have made careful study of many insect pests. They also carry on various experiments with a view to the extermination of such pests. Remedies are tested; new insect-destroying substances are tried, and their effect carefully noted. Insecticides are tested—first, as to their effects upon the insect in question; secondly, as to their effects upon the plant infested. The Division is also interested in apparatus for the distribution of insect-destroying substances.

As a publishing bureau, the Division of Entomology issues bulletins of general interest to farmers. Some of these reports deal with one specific topic, as, for example, the one on the San José scale; others contain miscellaneous articles of valuable information to farmers and fruit growers. The Division also publishes a list of remedies against injurious insects and the methods of preparing and using insecticides. It is only within recent years that agriculturists have begun to realize the fact that their crops are as seriously threatened by foreign insect pests as by native ones; this is clearly shown by the spread of the San José scale, and the great damage which it has caused. The majority of the foreign insect pests have been introduced from Europe, or through Europe. This is natural enough, for the climate of Europe is similar to our own, and trade connections between Europe and our country are so frequent and so numerous. There are several places in the southern part of our country which have a distinctly tropical climate, and which contain tropical vegetation. Certain tropical insects show a tendency to spread into the life-zone just north of the Tropics: so the West Indian peach scale has been introduced into Georgia and other southern states. Steps have been taken to secure the most rigid inspection of dangerous classes of merchandise, such as nursery stock, etc. In California, by the operation of a state law, such an inspection has been carried on for several years, and this has undoubtedly prevented the establishment of many species of injurious insects within the State boundaries. Every vessel, containing suspected articles, on entering the port of San Francisco, is examined by the State officer who is empowered to condemn or to order treated, all trees, plants, or fruit consigned to people living in any part of California, which, in his judgment, call for condemnation or treatment.

Another important problem wherever agriculture is practiced, is the question of weed destruction. So serious a problem is it, that soil culture may be said to be an everlasting war against weeds. In order to understand the problem thoroughly, we must study the relation of the weed to crops, and ascertain what are the agents which act as weed destroyers. The hoe will do much to eradicate weeds, but some of them will always succeed in maturing seeds to sprout the following season. Among the most efficient agents which check this harvest are the seed-eating birds. They are of enormous practical value, for every fall and winter, they flock to farm-districts and live upon the ripened seeds of various weeds.

The birds most actively engaged in consuming weed seed are the sparrows and finches, larks, blackbirds, meadow larks, doves and quail; also the junco, which, with the sparrows, eats the seeds of many troublesome weeds, like the knotweed, birdweed, and pigeon-grass. Not less than fifty birds have been found to act as weed destroyers, and the hurtful plants which they help to eradicate number more than fifty species. The birds that accomplish most as weed destroyers are the various species of native sparrows, that flock to the weed patches in the early fall.

How to Teach Children of the East-side to Love Nature.

With Special Reference to the Lower Grammar Grades.

By Martha B. Bayles. P. S. 15, Manhattan.

WHY has Nature Study been given such a prominent place in the new course of study? The answer is obvious. It is one of the great means of culture, "that glory-word of education," as Gannett calls it. But how can this subject be taught in an old building on the East-side where one can scarcely say with Emerson that

"... in the mud and scum of things,
There always, always something sings."

A man, when asked why he had sent his son to England, said it was simply to imbibe the atmosphere. One does not find the conditions conducive to the study of Mother Nature where no green thing is visible, unless it be "teacher's jumper." Evidently the atmosphere must be created and it can be. The children must be made to feel that they are entering a delightful world of inexhaustible wonder and beauty.

In the first place the wall decorations should be carefully considered. For a trifle any teacher may secure choice views of sloping meadows, sedgy marshes and blossoming orchards, as well as pictures of flowers and animals, which will tell more at a glance than whole sermons on the subject. There is a bird calendar published which is both beautiful and helpful. In fact anything which suggests God's out-of-doors can be used to advantage. Some fungi, a branch of brown oak leaves with their rustle, pieces of bark from the forest trees, a nest or two, bittersweet berries against a green background, a few ears of yellow corn with the husks turned back, a corn stalk, root and all, and a sheaf of rye or wheat will bring the woods and fields into your very room. These dead things are good but live ones are better. Every one can have a box of ferns; they need no sun and very little care. If possible, dig them up yourself in the fall. Besides the inspiration which you will carry to the children, you will find, when spring comes, a lot of treasures of which you never dreamed. Here is a dogtooth violet and there a wild geranium or, perhaps, a spring beauty, to say nothing of the curled-up fronds which tell a new story every day. How did the dear things know it was April! The joy you feel as your favorites appear will be communicated to the little folks. Do not fail to plant a miniature tree, if it has but two leaves on it. How many lessons it teaches! The leaves drop and remain on the soil all winter, gradually decaying and becoming part of it. The baby trunk looks like a useless stick for months, but when March comes a new branch is put forth and tender green leaves appear;—truly, a second budding of Aaron's rod. Is this not almost a complete life history?

Mosses, kept moist, also grow anywhere and are easily found. A shallow glass dish filled with several varieties makes an attractive spot on the window-sill. By living with these plants, the children discover for themselves that they are flowerless and that they are generated by means of spores. Then it is an easy matter to connect with them the lichens and mushrooms, two other members of the same family.

Animal life is of still greater interest to the pupils. A fight between a brown spider and a yellow one over a fly is a genuine battle, although the field is but a piece of turf in a pasteboard box covered with netting. There comes a morning when the box is empty. These friends of ours have left us. But, no! one has woven a gauzy web on the south wall and the other is in the further corner of the ceiling and there they remain for weeks. Some egg-cases, containing not only eggs but tiny spiders, are brought in. They are as novel to the teacher as to the class. But one of the charms of this subject is that both may learn together. After this, will not "The Spider and the Fly" and "Perseverance" be very real and full of meaning?

The room is not quite complete without an aquarium. If one lives in the suburbs, near a pond, the boys will be delighted to get fish, plants and even frogs' eggs. If nothing else is available, a milk pan with a bank of sand at one side will answer for the tadpoles. The Aquarium at Battery Park will furnish everything for a salt water aquarium except the vessel. Clams and oysters are something more than food when their daily life is seen. It becomes a privilege to be allowed to watch the soft shell stretch its long neck, or to see the anemone grasp a bit of chopped oyster in its tentacles; and the interest increases when a lively shrimp steals that morsel and puts it into its own transparent body. In these crowded districts where nature material is limited, it is necessary to utilize all that comes even though it may seem to interfere with other work. The arithmetic, writing and other subjects are so important that it is often an unwelcome interruption to have a case of birds or minerals thrust upon you for inspection, especially if they are not in your grade and you know very little about them. Take the birds, for instance. Stuffed things! What can be done with them? A song-sparrow is held up. It brings to mind one that used to sit on the front fence and sing its merry lay to an invalid sister. The incident rouses the children—personal experiences are always vital—and when, later on, Van Dyke's "Song-sparrow" is read, that

". . . Sweet-sweet-sweet-very merry cheer"

is much appreciated. It made the sick girl smile. The chickadee claims special attention because of a song which most of the pupils know and which they sing for your benefit. The grave owl brings forth the story of a frolic at night as told in "The Garden of a Commuter's Wife," each pushing the other off the limb and then flying back to the first place. If this is used as preparation for language, it is doing double duty, besides being an impetus to the rest of the work. Naturally, a composition on "A Visit From the Birds" is the result and, possibly, a bird morning in the assembly room, "Sweet, sweet" being heard from various parts of the class, followed by appropriate quotations.

The minerals seem less interesting, but when a fern, perfect in every detail, is found imprinted on a rock, the inanimate thing glows with life and a veritable fairy tale is unearthed, a pleasing theme for conversation. Stones are really worth looking at. Some form beautiful crystals and are so hard they cannot be scratched by steel, while others are in layers, transparent and glittering, and these two with one other make a strong building material. So much of this last is found in New Hampshire that it is called the Granite State. Its mountains are famous for the Great Stone Face which has been carved out of the mighty rocks. Who did it? And whom does it resemble? Now, tell Hawthorne's story and this common mixture of quartz and mica and feldspar grows luminous in the enchanted realm of fancy. What a wonderful world!

A sandpiper is brought in. When the name is announced, a little hand goes up and a voice says, as a volume of Celia Thaxter's is raised, "I have a poem about that bird." With the book in one hand and the small feathered creature in the other, the poem is read. When the last line is reached, "My little sandpiper and I" are more than passing acquaintances. Helen Gray Cone's verses about the hepatica make that simple blossom in its "smoke-blue silken gown" a veritable princess enthralled by the giant oak.

In connection with the evergreens, read "Why the Evergreens Never Lose Their Leaves" in "The Book of Nature Myths" by Florence Holbrook. Your hearers will listen with rapt attention and they will never look at their mounted specimens of spruce and pine and juniper without a loving thought of the trees that sheltered and fed the poor little bird with the broken wing.

If you correspond with a country school, you will receive not only specimens but delightful, breezy letters from both teacher and pupils. These will aid in the spelling. A girl writes that she has just noticed that pussy willows are alternate on the branch, while the lilac buds grow opposite to each other. If you chance to have them at hand, her statement can be verified and *alternate* and *opposite* will be full of meaning. And the word, *scarred,* acquires a new significance after examining the well-defined leaf-scars of the horsechestnut and hickory.

A nest is a prolific subject. Should it happen to be in the crotch of a twig, having a leaf or two still clinging to it, you may be happy. With faith's pinions, the active little minds will fly to the topmost bough of that tree and see and hear marvelous things. This bundle of dried grass and twine has a great history. If it could but talk! Listen!

> "I am a nest. A month ago I was swinging high in a maple tree. The wind blew but I did not care. The rain fell but it did not hurt me. One day a boy took me down and sent me to this school. Do you think I like it?"

Or a letter may be written:—

> My dear Nest;
>
> We are very much interested in you. Do tell us who put you into that maple tree. Was it a robin or a bluebird? We know it was not a pipit for it builds its nest on the ground in the far north.
>
> How many eggs did you hold? Were they blue or speckled?
>
> Please whisper your secrets to us. We will not tell.
>
> Your little admirer
> S..................

The germination of the seed is of intense interest. When the children have planted a kernel of corn or a bean, have seen the shell burst and have observed the one or two cotyledons, the radicle and the plumule, they are ready to call it a miracle. Did they not plant an apparently dead thing and do they not find it replete with a rich, mysterious life? It will not be a difficult matter to evolve the following:

THE MYSTERY

> My teacher gave me some hard, dry beans. After soaking them for several days I planted them in sawdust.
>
> Would you think such a thing as a seed could grow? The shell burst and in a short time two tiny leaves and a root appeared. The baby plant had been tucked away since last fall. Is it not wonderful!

A hawk is sent you with a note, telling how he was caught in a trap set for a mink. To get him caged is not an easy task, attested to by those who have their fingers nipped. As it is done on a roof just below you, the whole proceeding is watched with interest. The poor bird is finally imprisoned much to his disgust. He does his best to escape, but in vain. He refuses food. Under the circumstances it is not difficult to awaken in the pupils a great deal of sympathy with the wild thing, nor with their keen imaginations is it difficult to contrast his present confinement with his former freedom. For the moment each child is the hawk, flying over the Catskill Mountains, dipping and diving into the beautiful Hudson, and, last but not least, stealing chickens from the farmer. The result is a composition called "The Hawk's Reflections."

The choice of memory gems will perhaps do more to impress the nature work than any other one thing; but often it is a problem how to make clear the meaning of many a line and passage. Take this bit of advice from Ruskin: "Never lose an opportunity to see anything beautiful. Beauty is God's handwriting." Where shall we look? With dirty streets, crowded with sordid people, with high brick walls, shutting out the cleansing sunshine and the purifying breezes; with homes, dark and uninviting, badly ventilated and thickly populated, the case seems certainly hopeless But, no! Is the sky not just above, that paradise where the Father dwells in every child's thought? The raising of an eye brings it within sight of the smallest. Here is a vision of purity, never sullied, a perpetual commentary on right doing and thinking. Oh, the blessed skyscape with its ever changing expression! At nine, blue and serene; at twelve, gray and solemn; at three, black and threatening. For dictation or sentence study you naturally have the following:

> "This morning the sky was clear, and blue as the fringed gentian. This noon it was soft and gray like the pussy willow. Now it is dark and stormy. Which do you prefer?"

Whether calm and smiling in the sunshine, or flecked with fleecy clouds like white-crested billows, or covered with thunder caps, lightning-pierced, the children, with the pigeons circling above, learn to enjoy it in all its moods.

Then the night. "One by one the silvery points of light break out of the darkness overhead and the faithful stars look down on the little earth they have watched over these countless years." Nothing to admire in the slums of a great city? What a mistake! The price of an upward glance reveals a starry host, ever stately and impressive. There rides the moon in all her splendor. Who cannot note her changes from crescent to full and back again?

> "O moon! In the night I have seen you sailing
> And shining so round and low;
> You were bright, ah, bright! but your light is failing,—
> You are nothing now but a bow."

This handwriting of God's is marvelous, and the children begin to realize that it is their privilege to read and understand it.

Take this selection of Professor Bailey's:

"On the hills the leaves are coloring. Gradually the summer greens are turning to red and gold. The October haze is on the fields. The sky is near. Stillness is in the air. The year is ripe.

"I see the pageant along the countryside, like a procession stretching away to paradise. There are kings and queens in purple and silver and gold. There are people in green and buff and brown. There are children in red and pink and yellow. My eyes are drunk with color.

"Over the fields and in the swamps I wander. I smell the weedy odor of the Indian summer. Yellow and fiery-red are the maples. Red and morocco-red are the oaks. Nut-brown are the beeches. Straw-yellow are the grasses, and brown and sere are the weeds. Each kind has its color.

"And yet there are colors on the maple in the meadow and other colors on the maple on the hill. The oak on one side of my doorway is maroon-red and that on the other side is veiny-yellow, and they have been the same in all the Octobers in which I have loved them. Each plant has its color.

"Floating, sailing, turning, the autumn leaves drop one by one. Content I sit in silence, and let the colors fill my soul." One must needs get into the country to appreciate such a word-picture. Is it possible to make children realize the beauty of the autumn forest when they have never seen anything larger than a small park where there is no brilliant foliage, no walk strewn with rustling leaves, no path bordered with the gorgeous vagrants of the woods? With the aid of a tinted photograph of a leaf-covered road, edged with tall trees in their gay October dress, imaginary strolls can be taken and your city companions will find more to admire than many born and bred in the country. Goldenrod, asters, queen's lace, catspaw, smart weed, in fact every blossom that can be obtained, with berries of various hues, give some idea of the wonderful pageant. Sprays from the maple, yellow and red, from the oak with their deeper coloring and from the somber beech, not to mention the grasses and weeds of every kind and description, help in the interpretation.

Have you labored in vain? Listen to the closing lines:

"Content I sit in silence and let the colors fill my soul."

They are thrilling. You are convinced that East-side children can be taught to love nature.

Weekly Plans and Outline Nature Study—5A.

By Louis J. Klein and Morris Newman, Instructors, New York City.

Adaptation to Environment.

1. Methods of securing food. Means of attack and defense.
2. Protective resemblance. Warning colors. Mimicry.
3. Care of young. Modes of locomotion. Breathing.
4. Adaptation to seasons. Division of labor in social or communal life.
5. Review Adaptation to environment.

Elementary Classification.

6. Meaning and use of classification. Vertebrates and invertebrates.

Vertebrates.

7. Mammals.
8. Birds. Differences between bat (mammal) and bird.
9. Reptiles.
10. Amphibians.
11. Fishes. Differences between whale (mammal) and fishes.
12. Review Vertebrates.

Invertebrates.

13. Sponges. Corals.
14. Worms.
15. Starfish.
16. Mollusks.
17. Spiders.
18. Insects. Differences between caterpillar (insect) and worm.
19. Crustaceans.
20. Review Invertebrates. General review of classification.

Adaptation to Environment.

Caused by "Struggle for existence." Result of heredity and "Natural selection." ("Survival of the Fittest.")

Classification of Adaptations.

Food securing. Attack and defense. Protective resemblance. Warning colors. Mimicry. Care of young. Locomotion. Breathing. Adaptation to seasons. Division of labor in social or communal life.

Adaptations for Securing Food.

General.—For capture of prey—claws, teeth, and beaks. Nut eaters—strong teeth. Plant eaters—chisel-like teeth (cutting)—molar teeth (crushing). Flesh eaters—canine teeth (tearing).

Special examples: Anteater—long, sticky tongue. Giraffe—long neck (browsing on foliage); tuft of hair (detection of foliage). Grasshopper—broad jaws with sharp edges (cut leaves and stems). Mosquito—needles (cut flesh); tubes (suck blood). Butterfly—modified mouth (sucking liquid food).

ADAPTATIONS FOR PROTECTION.

Carnivorous animals—same weapons as for securing food; claws, teeth and beaks (economy of means). Dog—voice (and teeth). Hoofed animals—horns. Skunk—smell. Porcupine and hedgehog—spines. Turtles—shells. Crayfish—pincers. Bees and wasps—stings. Snake—poison or rattle.

PROTECTIVE RESEMBLANCE—COLORATION FOR RENDERING ANIMAL INCONSPICUOUS.

General Resemblance to Surroundings.

On Land

Frigid zone—perpetual snow; Polar bear—white fur. *Temperate zone*—changing seasons; Hare—change in color of fur. *Torrid zone*—brilliant vegetation; Parrot brilliantly colored. Desert region (sandy)—Camel—sandy colored.

In Water

Brooks—fish dark above like bottom below; light below like sky above. *Deep sea*—dark altogether. Near seaweed—green or red like weed.

PARTICULAR RESEMBLANCE TO SURROUNDINGS.

Butterfly—like dead leaf. Walking stick and inch worm (geometrid larva)—like twigs. Chrysalis of swallow-tail butterfly—like bark.

WARNING COLORS—COLORATION FOR RENDERING ANIMALS CONSPICUOUS.

Ill-tasting caterpillars and frogs, the larva of Monarch butterfly, and the lady-bird beetles—colored to warn birds of their ill-taste. Stinging wasps and bees—colored to warn animals of their sting. Gila monster (poisonous lizard)—venomous snakes (coral snakes)—colored to warn animals of their poison.

MIMICRY.

Assumption by a defenseless animal of the general appearance of a defended one.—Most common among insects.—Mimicry—involuntary. Monarch butterfly mimicked by edible ones. Bees and wasps—by certain moths and flies.

ADAPTATIONS FOR CARE OF YOUNG.

Eggs deposited in safe places. Many insects. Eggs placed on food—fly. Young carried in pouch by mother—opossum and kangaroo. Homes and nests—man, bird.

ADAPTATIONS FOR LOCOMOTION.

Legs—walking. Wings—flying; birds, insects, bats. Fins—swimming; fishes.

ADAPTATIONS FOR BREATHING.

In water—gills; fish (air mixed with water). In air—lungs; birds, etc.; tubes all over body—insects.

ADAPTATION TO SEASONS.

Fur—change in quantity. Hibernation—bear. Mudfish retain primitive lunglike structure to breathe air in summer when pools are dried.

DIVISION OF LABOR IN SOCIAL OR COMMUNAL LIFE.

Bees—Queen, fertile female, lays all eggs. Drones—males. Workers—infertile females, food suppliers, honey-makers, comb-builders, nurses. Ants—males, winged; females. winged. Workers (infertile males and females), wingless. These act as food gatherers, builders, soldiers, and milk-maids (cows being plant-lice and scale insects); the soldiers wage war and make slaves of captives. Beavers—live in "villages," build dams.

CLASSIFICATION OF ANIMAL KINGDOM.

Sub-Kingdom I., Vertebrates—Backbone, internal skeleton: Mammals. Birds. Reptiles. Amphibians. Fishes.

Sub-Kingdom II., Invertebrates — No backbone, external skeleton (if any): Sponges, Corals—plant-like animals. Worms—jointed animals (jointed bodies, no legs or unjointed legs). Starfish—rayed animals. Mollusks—soft-bodied animals. Spiders, Insects, Crustaceans—jointed animals (jointed bodies and jointed legs).

MAMMALS.

Young—born alive; fed on milk (suckled). Blood—warm. Breathe—by lungs. Covering—hair. Limbs—generally four. Live—on land; except whale, seal, in water; bat, in air.

Examples: Man, monkey, cat, tiger, lion, dog, wolf, bear, cow, deer, horse, elephant, whale, seal, bat, mole, squirrel, rat, mouse, beaver, kangaroo, opossum.

BIRDS.

Young—Hatched from eggs. Blood—warm. Breathe—by lungs. Covering—feathers. Limbs—2 legs; 2 wings. Live in air.

Examples: Robin, nightingale, swallow, song sparrow, humming bird, woodpecker, parrot, eagle, owl, peacock, duck, goose, turkey, ostrich.

DIFFERENCES BETWEEN BATS AND BIRDS.

Bats—1. Young—born alive. 2. Covering—hair. 3. Wings—skin stretched over fingers.

Birds—1. Young—from eggs. 2. Covering—feathers. 3. Wings—true wings of feathers.

REPTILES OR CREEPING CREATURES.

Young—produced from eggs. Blood—cold. Breathe—by lungs. Covering—scales or plates. Limbs—four. Live—on land.

Examples: Alligator, crocodile, turtle, tortoise, snakes.

AMPHIBIANS (OR DOUBLE-LIVED) ANIMALS.

Young—from eggs; differ in form from adult; undergo changes (metamorphosis). Blood—cold. Breathe—by gills (when young); by lungs (when mature); by skin.

Covering—skin; frogs change skin. Live—in water (in early life); on land (in later life). Limbs, weak fore-legs; strong hind-legs (jumping); tail (lost in later stages).

Examples: Frog, toad, salamander.

FISHES.

Young—from eggs. Blood—cold (therefore cannot feel changes in temperature). Breathe—by gills. Covering—scales. Limbs and appendages—fins for balancing; fins for locomotion; tail (steering). Live—in water.

Examples: Salmon, herring, gold-fish, sturgeon, shark, mackerel.

DIFFERENCES BETWEEN WHALES AND FISHES.

Whales—1. Young—born alive. 2. Breathe—by lungs. 3. Blood—warm. 4 Appendages modified arms and hands.

Fishes—1. Young—from eggs. 2. Breathe—by gills. 3. Blood—cold. 4. Appendages—fins.

SPONGES.

Young—from eggs.

Development—formation of hollow globe (by division of egg cell); folding in of one side of globe (forming double layer of cells with mouth cavity); formation of skeleton. Live—in sea near shore; fastened to rocks. Breathe and take in food; through pores. Food—washed in by current of water through pores; washed out through main opening on top. Size—varies; size of pea to 3 ft. diameter.

Examples: Common sponge, Venus Flower Basket.

CORALS (THE SKELETON OF CORAL POLYP.)

Young—from parent by dividing or budding. Body—simple sac, stomach; parts arranged in circle. Limbs and appendages—"lasso cells" to sting and paralyze prey. Locomotion—cannot move. Form—islands (colony of dead polyps).

Examples: Red coral, cup coral, organ pipe, branch coral.

WORMS.

Young—from eggs. Blood—white. Body—made up of rings. Breathe—through skin. Appendages—bristles or hooks pointed backward, 2 pair to each ring except the first and last. Senses—no ears, nose, or eyes (but affected by light). Live—in earth in burrows; in water. Food—earth, decayed matter.

Examples; Earthworm, flatworm.

STARFISH.

Body—parts arranged in circle; upper and lower side; upper side rough; mouth in middle of lower part. Limbs—5 arms; many small hollow tubes (suckers) for crawling; grow again when lost. Food—(very voracious) sea animals; oysters; turn stomach inside out; pass food on by suckers.

Examples; Starfish.

MOLLUSKS.

Young—from eggs. Breathe—by gills arranged in plates. Body—soft. Covering—shell. Classification—head-footed, cuttlefish; belly-footed, snail: headless, oyster. Live—in water.

SPIDERS.

Young—from eggs hatched in sun. Breathe—by spiracles (openings of tubes). Limbs—8 legs attached to rings of body. Skeleton—external. Make—webs to capture prey; spin and weave by fluid coming from spinnerets. Have—poison fangs.

Example; Garden spider.

INSECTS.

Young—from eggs. Breathe by tubes distributed over body; spiracles (openings of these tubes). Body—divided: 1. head; 2. chest; 3. belly. Legs—3 pair, one pair to each division of thorax (chest). Appendage. One or two pair of wings. Live—some on land, in air, in water; very strong and active (comparatively). Ants lift many times their weight. Grasshoppers jump many times their height.

Examples; Ant, fly, bed bug, grasshopper, beetle, mosquito, wasp, butterflies, metamorphosis.

DIFFERENCES BETWEEN WORMS AND CATERPILLARS.

Worms—Final stage; no true legs but bristles or hooks.

Caterpillar—Not final stage; 3 pairs of true legs; several fleshy legs.

CRUSTACEA.

Young—from eggs. Breathe—by gills. Body—external skeleton showing; deep internal segments—head, abdomen, thorax. Appendages—pincers with claws used for fighting; lost parts grow again. Live in sea; few on land.

Examples; Lobster, prawn, shrimp, crab, barnacle.

Nature Study—5B.

By DAVID GOLDWASSER, P. S. 40 Manhattan.

PLAN.

First Week.—Uses of plants to man.

Second Week.—Roots; fleshy and fibrous roots as vegetables.

Third Week.—Stems; uses to plants. Why plants seek upright position. Kinds.

Fourth Week.—Stems; use to man. Bulb and underground stem. Use of stored nourishment.

Fifth Week.—Pith of tree.

Sixth Week.—Annual rings. Medullary rays.

Seventh Week.—Heartwood and sapwood.

Eighth Week.—Bark.

Ninth Week.—Sap.

Tenth Week.—Pear and apple.

Eleventh Week.—Cherry, plum, peach.

Twelfth Week.—Willows and poplars.

Thirteenth Week.—Birch and maples.

Fourteenth Week.—Oaks and chestnut.

Fifteenth Week.—Ash, elm, horse-chestnut.

Sixteenth Week.—Pine, cedar, ash, hemlock, as constructive woods.

Seventeenth Week.—Larch, chestnut, oak, maple, as constructive and furniture woods.

Eighteenth Week.—Cherry, birch, walnut, mahogany, rosewood, ebony, as furniture woods.

Nineteenth Week.—Use of trees in producing rainfall.

Twentieth Week.—Protection of trees in city streets.

USES OF PLANTS TO MAN.

1. They purify the air for animals.
2. They are, directly or indirectly, the source of all our food.
3. They give us our clothing, cotton, linen, silk (mulberry leaves), and wool (indirectly).
4. They furnish utensils, tools, and building materials (furniture, etc.).
5. They supply all fuel.
6. They furnish materials whence we obtain light.
7. Their beauty and fragrance afford much pleasure.

ROOTS.

1. Roots serve to fix the plant in the earth.
2. Roots serve to absorb food and moisture.
3. Roots serve to store food and moisture.

There are two kinds of roots—fleshy roots or those which are solid continuations of the stem and fibrous roots which are composed of many branches. The common vegetables—turnip, carrot, parsnip, etc., are fleshy roots while the roots of flowers and trees are types of the fibrous variety.

The use of roots to man lies in the fact that they furnish food, for a great many of the common vegetables are fleshy roots.

STEMS.

1. Stems hold the plant erect.
2. They also serve to conduct nourishment from the roots to the leaves, flowers and buds.

Plants seek upright position to reach the light and air which are necessary for their welfare.

There are four kinds of stems to be taught: 1. Erect; 2. Prostrate (garden nasturtium); 3. Climbing (by rootlets, ivy; by tendrils, pea and grape); 4. Twining (morning-glory, honey-suckle).

The good of stems to man outside the general uses of trees may be illustrated by the potato, which is a variety of underground stem called tuber, and from the onion, which is a bulb. A bulb is really a bud covered with scales. In both we find another function of stems, that of storing nourishment.

THE PITH.

The pith occupies the central part of the tree. It is sometimes found away from the center. This is caused by the pressure of the growing wood. The pith is composed of cellular tissue. When the tree is young the cells are filled with nourishment for the buds until they are able to get nourishment for themselves. As the tree gets older these cells no longer contain the food and drink but only air and sometimes disappear altogether. The pith presents no specific uses for man.

WOOD.

1. *Annual Rings.*—Around the pith is formed the wood, arranged in layers or rings. These tell the age of the tree for there is one for each year of the tree's life. There are sometimes false rings which are formed when the growth of the tree is arrested by frost or by the destructive activities of insects. The rings are separated either by rows of holes, as in the oak, or by a solid band as in the pine, or by a thin, dark line as in the maple. These marks are important guides in determining from what kind of tree a piece of wood comes.

2. *Medullary Rays.*—While the structure of the wood of a tree is essentially vertical, which may be seen from the ease with which it is split up and down, there are horizontal cells which bind the vertical units together and strengthen the wood. They are in the form of thin whitish lines running from the inside outwards. Some start in the pith, others at some annual ring. A new set is formed each year, starting from that year's ring to the bark. They thus divide the wood into a number of wedges of irregular size. Buds are formed at the end of these medullary

rays, as they are called, and the rays act as ducts to carry nourishment to them. Their chief service to man is the making of the beautiful silver grain. Although sometimes, as in the chestnuts and some of the conifers they cannot be seen without a microscope, they are great aids in distinguishing kinds of woods.

3. *Heartwood and Sapwood.*—The young wood of trees is porous. It allows the sap to go through and is known as sapwood. As other rings form the sapwood becomes dense, its canals are filled with gums and tannin and becomes darker. It is then called heartwood. It is a very slow process in some trees but, in others, as in the locust, it goes so rapidly that the wood seems to be wholly heartwood. The heartwood gives strength to the tree but its function in helping the life processes of the tree is practically nil. The sapwood is not so strong but is the most essential part of the tree. On account of its pliability the sapwood of some trees is valued but the heartwood is tougher, heavier, stronger and more valued in construction.

BARK.

Around the wood is the bark which protects the wood. It is arranged in three layers, the inner or white, the middle or green and the outer which is brown, gray, silver, white, depending on the nature of the tree. **It is the inner bark which forms the new bark. As we all know,** bark usually presents a very rent and furrowed appearance. This is because as the wood inside is always growing the inner bark is unable to make bark as quickly and as a result the bark breaks. These fissures also allow the tree to breathe.

Some drugs are made of bark, most important being quinine, which is obtained from the cinchona tree. The bark of the cork oak gives us our cork. The bark of oak and hemlock contains a good deal of tannin and is used extensively for tanning.

SAP.

By sap we mean a fluid which flows upward from the roots through the stems and branches to the buds, leaves and flowers. It gives nourishment to every part, helps solidify the wood. What is left falls to the roots. This is the richest sap and is what comes up in spring.

The question arises, Why does the sap rise? Like the human body, the leaf requires a certain amount of water. It is continually giving it to the air, and therefore it must get it from the roots. A suction is thus formed which also brings up the sap.

The sap of deciduous trees is watery and when the leaves fall in autumn, it also drops to the roots. In the spring the plant becomes overflowing with sap and it flows freely from cuts in the tree. This is **how maple syrup and sugar are obtained. In the grape, pressure is so** great that the sap itself breaks through the stem. The sap of evergreen trees is thick and resinous. These two kinds of sap must not be confounded with crude sap and elaborated sap as it is sometimes called. The former is colorless and mostly water and is the original sap while the latter is dense and rich and is the crude sap which has fallen to the roots and then ascends. Our common sugar is made from the sap of the sugar-cane.

Blossoming and Fruit-Formation of Trees.

Apple.—Blossom appears in May. It has five petals, white or pink and is very fragrant. There are 30 stamens and five pistils. The latter are joined in one piece. The green leaves at the core of the apple are the five leaves of the calyx, the petals, stamens and upper part of the pistils having fallen off. The tree is from 20 or 30 feet high.

Pear.—Blossom is like that of apple, but has from 2 to 5 pistils. The fruit is formed in the same way. The pear, like the apple, is a native of Europe.

The Plum Group.—This group contains among others the cherry, plum and peach. The blossoms are white, or rose-colored and have five petals from 15 to 30 stamens with yellowish anthers and one pistil. The seed box is the fruit. There is a hard stone or pit containing the seed. This pit is round and smooth in the cherry, flat in the plum and rough in the peach. The flowers of the pear and plum groups belong to the rose family.

Willow Family.—The flowers of this family, called catkins, have their stamens and pistils on different trees. The pussy willows appear in March before the leaves are out. The two kinds of catkins cannot be distinguished until in April when the staminate show yellow anthers and the pistillate have little green bodies, shaped like flasks, with 2 stigmas. When the pollen has been carried, either by insects or by the wind, the staminate catkins fall off and the pistillate grow larger until seeds, covered with silky down, are formed. These are borne away by the wind and serve to create more trees.

The Poplars.—This family is somewhat like the willow. Its members also have catkins. They are grayish in color. The fruit is very small, resembling that of the willow. It, too, is covered with down. The fruit develops near the end of Spring. The varieties most common are yellow poplar and North Carolina poplar.

The Birches.—These trees have their staminate catkins all winter, but the stamens themselves do not appear until spring comes. The fruit which the pistillate catkins has many wings and in May the birch looks very beautiful with its yellow tassels. The principal varieties of birches are the yellow birch, the white birch and the paper birch. The alders resemble the birches very closely.

The Maples.—The red or swamp maple has red twigs and red flowers. The flowers appear in March or April before the leaves. The trees are either staminate or pistillate or both. The fruit is two-winged and is called a key. The tree is over 60 feet high and from two to four feet in diameter.

The sugar maples send forth their leaves and flowers together.

The silver or white maple which blooms early has yellow flowers. The wings are larger and spread more than in the other maples.

The Oaks.—Early in spring two kinds of flowers appear on the oaks. The staminate flowers grow in catkins as in the willow. The pistils are held in cups which afterwards are the cups of the acorns while the nut itself is the pistil.

The red oak has very large acorns in flat shallow cups.

The white oak has sweetish, ovoid acorns in rough shallow cups.

The pin oak has small, rounded acorn in shallow, saucer-shaped cup.

The Chestnut.—This tree also has catkins which bear whitish flowers. The staminate are long while the pistillate are small. The former fall and the latter form the prickly green cup or burr in which are from one to four brown nuts. When the burr bursts it opens out in four parts like the petals of a flower.

The Horse Chestnut.—Sometimes called buckeye. The flowers appear in May or June and are borne in large clusters. The blossom is white. The fruit is found in round prickly balls which split open. They have two compartments lined with a strong white covering each of which contains a nut. A comparatively small number of nuts come from the great amount of blossoms. The reason for this is that very few of the flowers contain pistils. It is at the base of the cluster that the fertile blossoms are found.

The Elms.—Flowers come out in March, April, before the leaves. They are small, brownish yellow or reddish and are found in clusters. Fruit is a samara or key winged all around. They mature when the leaves appear.

White Ash.—The flowers which are staminate or pistillate and which are borne in brown clusters appear in May before the leaves. The fruit is in the form of samaras, one to two inches in length which hang on the leafless tree until midwinter.

Woods Used by Man.

Pine.—White pine, found in Eastern North America. The tree is from 75 to 150 feet in height and three to six feet in diameter. The heartwood is cream white, sapwood almost white. Close, straight grain. Compact structure and comparatively free from knots.

Soft, seasons well, easy to work, nails without splitting. Lightest and weakest of pines. Used for carpentry, construction, matches, spars, boxes.

Georgia or yellow pine, found in Southern States. From 50 to 90 feet high and one to three feet in diameter. The heartwood is orange, sapwood lighter. Compact structure, coarse-grained, conspicuous medullary rays. It is hard, heavy, tough, strong, elastic, durable and is used for ships, cars, dock, beams and all kinds of heavy construction.

The Cedar.—Cedar is found almost everywhere. It is from 50 to 80 feet in height, two to three feet in diameter. The heartwood dull red, sapwood nearly white. Close, even grain, compact structure. It is light, soft, weak, brittle, easily worked, durable, fragrant. It is used for interior finish, pencils, chests, cigar-boxes.

The Ash.—White ash, principal one is found from Minnesota east. The tree is from 45 to 90 feet high, three to four feet in diameter. The heartwood is reddish brown, the sapwood almost white. Coarse-grained, compact structure. It is heavy, hard, strong and elastic. It is used for agricultural implements, carriages, etc.

The Chestnut.—The chestnut is found mostly east of the Mississippi. It is 75 to 100 feet in height, five to twelve feet in diameter. The heartwood is brown, the sapwood lighter. The wood is light, soft, not strong. Easily split. It is used in cabinet-making, railway ties, posts, fencing.

The Larch and the Tamarack.—Found in northern U. S. and southern Canada, east from Great Lakes. From 70 to 90 feet high, one to three feet in diameter. Heartwood light brown, sapwood nearly white. Heavy, hard; very strong, durable. Used for railway ties, ship timbers, telegraph poles, etc.

The Oak.—Found almost everywhere; 75 to 100 feet in height, three to six feet in diameter. Heartwood brown with sapwood lighter. Tough, strong, heavy, durable. Used for construction, ship-building, etc. The black and yellow oaks are capable of receiving a high polish and are used also for furniture.

The Hemlock.—Found in northern U. S.; 60 to 80 feet high; 2 to 3 feet in diameter. Light, soft, brittle, not easy to work, not strong or durable. Used for rafters, laths, fences, boxes, etc.

The Maple.—Maple, northern and eastern U. S. The sugar maple is from 70 to 100 feet high, two to four feet in diameter. The heartwood is brownish, sapwood lighter, close-grained with curly, blister or birds-eye effects. Tough, heavy, hard, strong, takes a good polish. It is very much used for furniture. Sometimes a ribbon is taken to be used as veneer.

The Cherry.—This is the wood of the wild cherry which is found in Eastern and Central U. S.; 40 to 80 feet in height, 2 to 4 feet in diameter. Heartwood reddish brown, sapwood yellow. It is light, hard, strong and easily worked. Used for furniture, cabinet and interior work.

The Birch.—Found in almost all parts of U. S. From 20 to 70 feet high, one to three feet in diameter. The wood is hard, heavy, strong, fine-grained. It is often stained to imitate cherry, and mahogany. Used for furniture and cabinet work.

Walnut.—Westward to Alaska. 90 to 125 feet high, three to eight feet in diameter. Heartwood chocolate-brown, sapwood lighter. Heavy, strong, hard, easily worked, durable, takes high polish. Used for cabinet-making, gun-stocks and furniture.

Mahogany.—Central America. Light reddish brown; smooth, uniform texture. Strong, brittle, durable. Used for furniture and veneers.

Ebony and Rosewood.—These woods take a very fine polish and are used for piano-cases, fine furniture and fancy articles.

Composition in 6A.

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COMPOSITION in this grade, as in all the other grades of the school course, occupies, and justly so, a very prominent position and too much attention cannot be given to it. One very important feature provided for in the course of study is the daily reports on matters of local and national interest. A short time each morning will suffice for this portion of the work. In order to save time, it might be well to appoint fix or six pupils each afternoon, who will, on the following morning, render orally their reports on the important world's events as recorded in the newspapers. A special committee may also be designated, the teacher being an ex-officio member, to collect clippings treating of the topics discussed and arrange them in scrap-book form, so as to be easily accessible to the pupils of the class. On one morning of each week, additional time might be allowed for a general discussion of some momentous topic, as the Japanese-Russian situation, under the direction of the class teacher. These oral reports and discussions will, without doubt, be of great value to the pupils in their written work especially if careful attention is given to the manner of expression and the sequence of thought.

In the more formal work of written composition the importance of the study of the models cannot be overestimated. Not only does the pupil see before him a finished product, the form of which he will try to imitate, but in the analytical study of the model, he cannot fail to be impressed with the idea that each paragraph treats of but *one thing*. This *one thing* may be called the main thought of the paragraph. In the study of a model composition from the blackboard, the object of the teacher must be, to obtain from the pupils, by working conversationally with the class, the subject of each paragraph in the form of a sentence. Having obtained the topic sentence of each paragraph the pupils are required to reproduce the model composition following the topic sentences as an outline. After the composition has been written, a comparison of the pupils' work with the original composition, will bring to light the salient errors of the class both in form and in structure. These errors may now be corrected and individual corrections made whenever or wherever necessary. However, the independence of the pupil in making corrections is to be encouraged rather than discouraged, for it is this dependence upon himself for the discovery and the correction of errors, that will make him more careful and cause him to avoid similar mistakes in future writings.

The steps taken in the above method of developing the composition may be classed as

I. *Analytic.*—The model composition is taken apart to find the main thought of each paragraph. The main thought is written in the margin of the model paragraph placed upon the blackboard. Erase the model paragraph and arrange the main thoughts as obtained from the class, under the subject of the composition.

II. *Synthetic*—By following these main thoughts as an outline the composition is reconstructed by the pupils and afterwards corrected by a comparison with the original. While the analytic work is in progress, specific instruction on the details of the outward form of the paragraph may be given.

Following is a model composition treated in the manner mentioned above:

How Benjamin Franklin Studied.

Few people ever knew so many things as Franklin. Men said, "How did he ever learn so many things?" For he had been a poor boy, who had to work for a living. He could not go to school at all, after he was ten years old.

Although Franklin could go to school very little, he knew a great deal.

His father made soap and candles. Little Ben had to cut wicks for the candles and fill the candle molds. He also sold soap and candles and ran errands. But when he was not at work, he spent his time in reading good books. What little money he got, he used to buy books with.

While Franklin was working for his father, he managed to read good books.

Another way he had of learning was by seeing things with his own eyes. His father took him to see carpenters at work with their saws and planes. He learned how masons laid bricks. He watched men making brass and copper kettles, and a man with a turning lathe, making the round legs of a chair. Some things people learn out of books, and some things they have to see for themselves.

Franklin learned many things by using his eyes.

As he was so fond of books, Ben's father thought that it would be a good plan for him to learn to print them. So the boy went to work in his brother's printing office. Here he passed his spare time in reading. He borrowed some books out of the stores where books were sold. He would sometimes set up a great part of the night to read one of these books. This he did in order that he might return it, when the store opened in the morning. One man who had many books, loaned Ben such books as he wanted.

When Franklin was working for his brother, he borrowed a great many books.

It was part of the bargain that Ben's brother should pay his board. The boy offered to board himself, if his brother would give him half what it cost to pay his board. His brother was glad to do this. Ben saved part of this money to buy books with.

Franklin spent half of the money his brother gave him for board to buy books with.

Long before he was a man, people said, "How much that boy knows!" This was because he did not waste time, but read good books and saw things for himself.

Franklin made good use of his time to gain knowledge.

Below is the outline which may be followed in reconstructing the composition:

How Benjamin Franklin Studied.

1. Although Franklin could go to school very little, he knew a great deal.
2. While Franklin was working for his father he managed to read good books.
3. Franklin learned many things by using his eyes.
4. When Franklin was working for his brother he borrowed a great many books.
5. Franklin spent half of the money his brother gave him for board to buy books with.
6. Franklin made good use of his time to gain knowledge.

The general method pursued in the study of the above model composition is applicable to almost any of the various kinds of composition required in the 6A grade. The remaining space allotted to this article, will be devoted to extracts from standard authors illustrating a few of the phases of the composition work, combined with a brief discussion of each extract and its relation to the practical work of the school-room.

DESCRIPTION.

The Little Post Boy.

I did not feel inclined to go forth into the wintry storm, but, having set my mind on reaching the village that night, I was loath to turn back.

"It is a bad night," said the woman of the house, "and my husband will certainly stay at Umea until morning. Lars will take you, and they can come back together."

"Who is Lars?" I asked.

"My son," said she. "He is getting the horse ready. There is nobody else about the house to-night."

Just then the door opened, and in came Lars. He was about twelve years old; but his face was so rosy, his eyes so clear and round and blue, and his golden hair was blown back from his face in such silky curls, that he appeared to be even younger. . . . He wore an overcoat of sheepskin, a fur cap tied by lappets under his chin, and a thick woolen scarf around his nose and mouth, so that only the round blue eyes were visible. His mother took the mittens of hare's fur from the stove, where they had been hung to dry. He put them on, took a short leather whip, and was ready.—Extract from "The Little Post Boy," by Bayard Taylor.

In the study of this model it is desirable that the attention of the pupils be directed particularly to the description of the boy, aside and apart from any other facts.

The children must be made to realize and to notice that many of the minor details of the personal appearance of the post boy have been disregarded by Mr. Taylor. They must be impressed with the fact that only the most noticeable characteristics—the complexion, the eyes, the hair, peculiar dress of the boy,—are mentioned, with the view doubtless, of giving us a general idea of the appearance of the post boy and presenting to us a picture of him, as he appeared to Mr. Taylor.

The fact, that in describing a person we must endeavor to concentrate our attention only upon his most characteristic features and picture him in such a way that our readers may be able to conjure up a person answering to the description, cannot be too strongly emphasized.

In order to create a live interest in the subject in hand require the pupils to write a brief description of some member of the class without mentioning his name. To test the accuracy of the descriptions permit some of them to be read, allowing the pupils in the room to be the critics and judges of each production. Following this exercise descriptions of specified persons such as mother, father, brother, sister, etc., may be written.

AN ESKIMO HUT.

On the slope, fifty yards from the beach, in the midst of rocks and boulders, stood the Eskimo settlement, consisting of two stone huts twenty yards apart. It was more fitted for the dwelling place of wild animals than for the home of human beings. Around it was a wilderness of snow and ice. In the evening while the men in our tent were fast asleep, I paid a visit to one of these huts. I found it to be in shape much like an old fashioned country clay oven, square in front, and sloping back into the rock strewn hill.

To get inside, I was obliged to crawl on my hands and knees through a covered passage about twelve feet long. . . . The whole interior was about ten feet in diameter and five and a half feet high. The walls were made of stones, moss bones of whale and other animals. They were lined with seal or fox skins stretched to dry. In the cracks between the stones were thrust whipstocks and bone pegs, on which hung coils of harpoon lines.

The floor was covered with thin, flat stones. Half of this floor, at the back part of the hut, was elevated a foot. This elevation was called "breck," and it served as both bed and seat, being covered with dry grass over which were spread bear and dog skins. The front of the hut was square and through it, above the passageway, opened a window. A square sheet of strips of dried intestine, sewed together admitted the light.

The air of the place was insufferable except for a short time. . . . There may have been a vent hole but I did not see any. I was indeed glad to get back to my people. From "An Arctic Boat Journey," by Isaac I. Hayes.

What is to be particularly noted in this description is the natural order in which the various points are brought to our attention. The author, first of all, describes the location and general appearance of the hut. Having entered, he gives us a general view of the interior as to size, and proceeds to depict the various portions of the hut in the order in which they attract his attention,—the walls and their decorations, the floor and the general sanitary conditions.

We must emphasize the fact that the value of the description depends almost entirely upon the writer. What may, perhaps, appeal to one as a salient feature of a description, may be totally disregarded or treated as a minor fact by another. A description must therefore express, to a great extent, the individual conception of the writer and this conception must be clearly drawn in words. The class may be required to reproduce the above from an outline and by varying the outline describe other buildings or places with which they are familiar.

OUTLINE.

I. The location and general appearance of the hut.
II. The Hut. a.) Entrance. b.) Interior described. c.) The walls.
III. The flooring.
IV. Ventilation. Impression upon the author.

INVENTION.

The Teapot.

There was a proud Teapot, proud of being porcelain, proud of its long spout, proud of its broad handle; it had the spout before, the handle behind, and that was what it talked about. It did not talk of its lid,—that was cracked, it was riveted, it had faults,—and one does not talk about one's faults there are plenty of others to do that. The cups, the cream pot, the sugar bowl, the whole tea service would be reminded much more of the lid's weakness and talk about that than of the sound handle and the remarkable spout. The Teapot knew it.

It stood on the table that was spread for tea, it was lifted by a very delicate hand; but the delicate hand was awkward, the Teapot fell, the spout snapped off, the handle snapped off, the lid was no worse to speak of,—the worst had been spoken of that. The Teapot lay in a swoon on the floor while the boiling water ran out of it. It was a horrid shame, but the worst was that they jeered at it; they jeered at it, and not at the awkward hand.

"I shall never lose the memory of that!" said the Teapot, when it afterward talked to itself of the course of its life. "I was called an invalid, and placed in a corner, and the day after was given away to a woman who begged victuals. I fell into poverty, and stood dumb both outside and in, but there, as I stood, began my better life. One is one thing and becomes quite another. Earth was placed in me: for a Teapot, that is the same as being buried, but in the earth was placed a flower bulb. Who placed it there, who gave it, I know not; given it was, and it took the place of the Chinese leaves and the boiling water, the broken handle and spout. And the bulb lay in the earth, the bulb lay in me, it became my heart, my living heart, such as I never before had. There was life in me, power and might; my pulses beat, the bulb put forth sprouts, it was the springing up of thoughts and feelings: they burst forth in flower. I saw it, I bore it, I forgot myself in its delight. Blessed it is to forget oneself in another. The bulb gave no thanks, did not think of me—it was admired and praised. I was so glad at that; how happy must it have been! One day I heard it said that it ought to have a better pot. I was thumped on my back—that was rather hard to bear; but the flower was put in a better pot—and I was thrown away in the yard where I lie as an old crock; but I have the memory: *that* I can never lose." From "The Teapot" by Hans Andersen.

The fairy tale is without doubt, an excellent means of exciting the child's mind to activity. Original thought will seek a means of expression. The expression of the thought in the best language at the child's command, soon results in or, at least, tends to give the child a certain fluency which is indispensable to good composition work.

In the above fairy tale Hans Andersen has represented the teapot to us as having the qualities of a real person. It speaks, it possesses emotions and feelings and is moved to the expression of those emotions by the treatment it receives during its existence. Stories of a similar style, all the incidents, however, originating in the pupils' minds, may be written by the class. In Dr. Maxwell's "School Composition" from which the story of "The Teapot," has been taken, may be found a further exposition of this subject. Below are a few suggestive topics for the writing of stories in imitation of the model:

I. The Chair.

Because it was beautifully upholstered and was owned by a wealthy man, it was very proud. One day the butler broke one of its legs. It was given to a poor man.

III. The Book.

On account of its beautiful cover and handsome illustrations, it was very often taken from its shelf and shown to visitors. One day it was left in the garden. A shower came on and the book was spoiled. It was then given to a poor sick child in a hospital.

Another exercise in invention is the writing of stories on such subjects as, "The History of a Dime," "The Story of an Umbrella," "The

Life History of a Knife," "The Story of a Needle," etc. Stories suggested by pictures will also require the pupils' imaginative powers to be exercised and consequently will form excellent material for inventive composition.

EXPOSITION.

LEARNING TO SWIM.

The swimming school was in water which flowed where Brimmer Street and the house behind it are now built. It was just such a building as the floating baths are now which the city maintains, but that it inclosed a much larger space. Of this space a part had a floor so that the water flowed through; the depth was about five feet. To little boys like me it made little difference that there was this floor, for we could be as easily drowned in five feet of water as if there were fifteen. . . . .

As soon as you were undressed and ready—and this meant in about one minute—you took your turn to be taught. A belt was put around you under your arms; to this belt a rope was attached, and you were told to jump in. You jumped in and went down as far as gravity chose to take you, and were then pulled up by the rope. The rope was then attached to the end of a long belt, and you were swung out upon the surface of the water. Then began the instruction.

" O-n-e,—two, three;" the last two words spoken with great rapidity, "one" spoken very slowly. This meant that the knees and feet were to be drawn up very slowly, but were to be dashed out very quickly and then the heels brought together as quickly.

Boys who were well built for it and who were quick, learned to swim in two or three lessons. Slender boys and little boys who had not much muscular force—and such was I—were a whole summer before they could be trusted without a rope. But the training was excellent, and from the end of that year till now I have been entirely at home in the water. From "A New England Boyhood," by Edward Everett Hale. Reproduced from Maxwell & Johnston's "School Composition."

In the above model we have a good example of exposition or explanatory composition which presents or explains to us the method of instruction employed in teaching persons to swim. Descriptions tell us how things look, but expositions explain the meaning of things. A child may know very clearly what a thing means and may know thoroughly how to do a thing but is unable to express his ideas in such form that they may be readily understood by his readers. In exposition, therefore, it is necessary that the account be clear, that the facts follow one another in such a manner as to show a definite relation to each other. The facts must also have a direct bearing on the subject of the composition. To effect these ends, it is absolutely necessary to construct carefully an outline which should be followed without deviation. The topics should be so arranged that the entire composition shall have unity, which is necessary in all composition, but especially essential in exposition.

In the study of the above model, the class may construct the outline, agreeing upon the topic and sub-topics of each paragraph and afterward reproducing the composition.

OUTLINE.

I. The school. 1. Location. 2. Kind of building. 3. Depth of water.

II. Preparation for lessons. 1. Time to prepare. 2. Method of keeping body above water.

III. Method of instruction. 1. The signals. 2. Meaning of signals.

IV. Results of instruction. 1. Upon well built boys. 2. Upon weak boys. 3. General result.

Outlines may be constructed and composition written on the following subjects:

1. Learning to skate. 2. Learning to dance. 3. Learning to row. 4. Learning to cook. 5. Learning to sew. 6. Learning to play base-ball. 7. Learning to play basket-ball. 8. Learning to play the piano. 9. Learning to play foot-ball. 10. Learning to make a kite.

NARRATION.

EXTRACT FROM NATHANIEL HAWTHORNE'S "NOTE-BOOKS."

MARCH 31, 1851.

A walk with the children yesterday forenoon. We went through the wood, where we found partridge berries, half hidden among the dry fallen leaves; thence down to the brook. . . . I sat on the withered leaves at the foot of a tree, while the children played, a little brook being the most fascinating plaything that a child can have. Una jumped to and fro across it; Julian stood beside a pool, fishing with a stick, without hook or line, and wondering that he caught nothing. Then he made new waterfalls with mighty labor, pulling big stones out of the earth, and flinging them into the current. Then they sent branches of trees, or the outer shells of walnuts, sailing down the stream and watched their passage through the intricacies of the way,—how they were hurried over in a cascade, hurried dizzily round in a whirlpool, or brought quite to a standstill amongst the collected rubbish. At last Julian tumbled into the brook, and was wetted through and through so that we were obliged to come home; he squelching along the way, with his india-rubber boots full of water. From "Passages from the American Note-Books," by Nathaniel Hawthorne.—Maxwell & Johnston's "School Composition."

In the above model we have the simplest form of narrative. It is the simple telling of a number of events without any attempt to produce a story. The happenings are recorded in the sequence of their occurrence and are told in an interesting manner. Personal interest on the part of the narrator is necessary in order to arouse interest in the listener or in the reader. The pupils may be asked to write an account of something that happened on their way to school, to write an account of a morning's happenings in school or to keep a diary for two or three days. These productions may be read in class and evident errors corrected by the pupils.

PERRY'S VICTORY ON LAKE ERIE.

During the War of 1812, Oliver Hazzard Perry, a young man of twenty-seven, was assigned to prepare for the defense of Lake Erie, against the British. He secured nine vessels and with this fleet Perry attacked the British squadron. The battle was fought with great courage on both sides. In memory of the late commander of the "Chesapeake," Perry had named his vessel the "Lawrence" and had hoisted a flag bearing Lawrence's last words, "Don't give up the ship!" The British made this vessel the target of their fire; Perry fought until nearly every man had fallen. He saw that it would be madness to remain any longer in his shattered ship. Leaping into a rowboat, he pulled with splintered oars amid a storm of flying shot for the "Niagara." Having reached her, he again hoisted the famous flag he had brought with him from the "Lawrence" and bore down on the enemy's fleet. The fight was renewed more furiously than ever, with the result that at length the British commander was forced to strike his colors. Perry then taking a pencil wrote on the back of an old letter this dispatch to General Harrison, commander of the Army of the West: "We have met the enemy and they are ours." From Montgomery's "Student's History of the United States."

In historical narratives, such as the above, it is of the first importance to be certain as to the truth of the facts to be narrated. We must spare no effort in securing the correct facts in regard to a historical event and then imagining ourselves in the actors' places, obtain a distinct realization of the event. This accomplished, we may recount the story in such a way as to make the happening impress the reader as it impressed us. Description cannot be separated from historical narratives. Most description is found within narration making the former subordinate and the latter the principal.

The pupils may be asked to write their own accounts of historical events which they have studied or are studying, as follows:

1. Death of Henry Hudson. 2. Death of Wolfe. 3. Braddock's Defeat. 4. Death of Nathan Hale. 5. Paul Revere's Ride. 6. Washington's Victory at Trenton. 7. Shay's Rebellion. 8. Surrender of Cornwallis. 9. Battle of Long Island. 10. Gen. Warren at Bunker Hill.

Models for Composition: Sixth and Seventh Years.

By Elizabeth E. Hale, P. S. 55, Brooklyn.

DESCRIPTION OF CEDRIC THE SAXON.

IT appeared from the countenance of this proprietor, that he was of a frank, but hasty and choleric temper. He was not above the middle stature, but broad-shouldered, long-armed, and powerfully made, like one accustomed to endure the fatigue of war or of the chase; his face was broad, with large blue eyes, open and frank features, fine teeth, and a well-formed head, altogether expressive of that sort of good humor which often lodges with a sudden and hasty temper. Pride and jealousy there were in his eye, for his life had been spent in asserting rights which were constantly liable to invasion, and the prompt, fiery, and resolute disposition of the man had been kept constantly upon the alert by the circumstances of his situation. His long, yellow hair was equally divided on the top of his head and upon his brow, and combed down on each side to the length of his shoulders; it had but little tendency to gray, although Cedric was approaching his sixtieth year.

His dress was a tunic of forest green, furred at the throat and cuff with what was called minever, a kind of fur inferior in quality to ermine, and formed, it is believed, of the skin of the gray squirrel. The doublet hung unbuttoned over a close dress of scarlet, which sat tight to his body; he had breeches of the same, but they did not reach below the lower part of the thigh, leaving the knee exposed. His feet had sandals of the same fashion with the peasants, but of finer material, and secured in the front with golden clasps. He had bracelets of gold upon his arms, and a broad collar of the same precious metal around his neck. About his waist he wore a richly studded belt, in which was stuck a short, straight two-edged sword, with a sharp point, so disposed as to hang almost perpendicularly by his side. Behind his seat hung a scarlet cloth cloak lined with fur, and a cap of the same materials richly embroidered, which completed the dress of the opulent landholder when he chose to go forth.

SIR WALTER SCOTT.

(Selection from Ivanhoe.)

DESCRIPTION OF AN APARTMENT AT BRACEBRIDGE HALL.

It was a large, old-fashioned hall. Over the heavy projecting fireplace was suspended a picture of a warrior in armour, standing by a white horse, and on the opposite wall hung a helmet, buckler and lance. At one end an enormous pair of antlers were inserted in the wall, the branches serving as hooks on which to suspend hats, whips and spurs, and in the corners of the apartment were fowling-pieces, fishing-rods and other sporting implements. The furniture was of the cumbrous workmanship of former days, though some articles of modern convenience had been added, and the oaken floor had been carpeted, so the whole presented an odd mixture of parlour and hall.

The grate had been removed from the wide, overwhelming fire-place to make way for a fire of wood, in the midst of which was an enormous log, glowing and blazing, and sending forth a vast volume of light and heat.

WASHINGTON IRVING.

(Selection from The Sketch Book.)

FROM LITTLE LORD FAUNTLEROY.

What Cedric saw was a large, old man with shaggy white hair and eyebrows, and a nose like an eagle's beak between his deep, fierce eyes. What the Earl saw was a graceful, childish figure in a black velvet suit, with a lace collar, and with love-locks waving about the handsome, manly little face, whose eyes met his with a look of innocent good-fellowship. If the castle was like a palace in a fairy story, it must be owned that little Lord Fauntleroy was himself rather like a small copy of the fairy prince, though he was not at all aware of the fact, and perhaps was rather a sturdy young model of a fairy. But there was a sudden glow of triumph and exultation in the fiery old Earl's heart as he saw what a strong, beautiful boy this grandson was and how unhesitatingly he looked up as he stood with his hand on the big dog's neck. It pleased the grim old gentleman that the child should show no shyness or fear either of the dog or himself.

FRANCES HODGSON BURNETT.

THE OLD APPLE DEALER.

From "Mosses from an Old Manse."

He is a small man, with grey hair and grey, stubby beard, and is invariably clad in a shabby surtout of snuff-color, closely buttoned, and half concealing a pair of grey pantaloons; the whole dress, though clean and entire, being evidently flimsy with much wear. His face, thin, withered, furrowed, and with features which even age has failed to render impressive, has a frost-bitten aspect. He sits on a bench in the depot room, and before him, on the floor, are deposited two baskets, of a capacity to contain his whole stock in trade. Across, from one basket to the other, extends a board on which are displayed a plate of cakes and gingerbread, some russet and red-cheeked apples, and a box containing variegated sticks of candy, together with that delectable condiment known by children as Gibraltar rock, neatly done up in white paper. There is likewise a half-peck measure of cracked walnuts, and two or three tin half-pints or gills filled with the nut kernels, ready for purchasers. Such are the small commodities with which our old friend comes daily before the world ministering to its petty needs and little freaks of appetite, and seeking thence the solid subsistence—so far as he may subsist—of his life.

NATHANIEL HAWTHORNE.

DESCRIPTION—BY GEORGE ELIOT.

From The Mill on the Floss.

A wide plain, where the broadening Floss hurries on between its green banks to the sea, and the loving tide, rushing to meet it, checks its passage with an impetuous embrace. On this mighty tide the black ships are borne along to the town of St. Ogg's, which shows its aged, fluted red roofs and the broad gables of its wharves between the low-wooded hill and the river brink, tinging the water with a soft, purple hue under the transient glance of this February sun. Far away on each hand stretch the rich pastures, and the patches of dark earth, made ready for the seed of broad-leaved green crops, or touched already with the tint of the tender-bladed autumn-sown corn. There is a remnant still of the last year's golden cluster of beehive ricks rising at intervals beyond the hedgerows, and everywhere the hedgerows are studded with trees; the distant ships seem to be lifting their masts and stretching their red-brown sails close among the branches of the spreading ash. Just by the red-roofed town the tributary ripple flows with a lively current into the Floss. How lovely the little river is with its dark, changing wavelets! It seems to me like a living companion while I wander along the bank and listen to its low, placid voice as to the voice of one who is deaf and loving. I remember those large, dipping willows.

DESCRIPTION OF A FISHING VILLAGE.

From Twice Told Tales.

The village was picturesque, in the variety of its edifices, though all were rude. Here stood a little hovel, built, perhaps, of drift-wood, there a row of boat houses, and beyond them a two-story dwelling, of dark and weather-beaten aspect, the whole intermingled with one or two snug cottages, painted white, a sufficiency of pig-styes, and a shoemaker's shop. Two grocery stores stood opposite each other, in the center of the village. These were the places of resort, at their idle hours, of a hardy throng of fishermen, in red baize shirts, oilcloth trousers, and boots of brown leather covering the whole leg; true seven-league boots, but fitter to wade the ocean than walk the earth. The wearers seemed amphibious. as if they did but creep out of salt water to sun themselves; nor would it have been wonderful to see their lower limbs covered with clusters of little shell fish, such as cling to rocks and old ship timber over which the tide ebbs and flows. When their fleet of boats was weather bound, the butchers raised their price, and the spit was busier than the frying pan, for this was a place of fish, and known as such, to all the country round about; the very air was fishy, being perfumed with dead sculpins, hard heads, and dog fish, strewn plentifully on the beach. You see, children, the village is but little changed since your mother and I were young.

NATHANIEL HAWTHORNE.

DESCRIPTION OF A PHILIPPINE DWELLING.

The house is built close to the sidewalk. The door is opened, and we enter, not the house, but a flower garden, about fifteen feet wide and twenty-five feet long. Seats along the walk are shaded and kept cool by large banana trees. We pass through a narrow passage into the dining-room, about fifteen feet square. The ceiling and walls are of wood and the floor of red bricks. A table runs along one side of the room, and in front of this is a long bench on which the members of the family sit during meals. The kitchen is a little shed in the rear. The cook stove is of brick and mortar, with openings on top in which the fire is made—frequently of charcoal. The cooking seems to be done either in clay bowls or on iron griddles, for this is all we see in the way of utensils. The upper floor contains the balcony, which extends out over the front and forms a veranda, sitting room, and, in very hot weather, sometimes also the sleeping room. The bedrooms for the family are on either side, and for the servants, in the rear.

The walls are not of lath and plaster, but of painted canvas. The windows are of thin oyster shells, arranged in small squares in panels that overlap, so that they can be readily moved aside to let in a current of air. The bedrooms are quite small. The beds are of bamboo—larger pieces forming the framework, and smaller pieces nailed across, forming the support for the sleeper. Upon the slats is a cover of woven cane, and on this a thin, hard mat of cane or straw. A round pillow completes the arrangements, for no sheets or other covering are needed.

MARIAN M. GEORGE.

English History in the Elementary Schools.

By Paul Abelson, Instructor in History, DeWitt Clinton High School.

I. General Conditions.

EVEN the most cursory examination of the course of study and syllabus in history and civics reveals four fundamental principles on which the course of study, as laid down, is based. *First,* it aims to adapt the teaching of history to the psychological development of the child. For this reason the course of study begins, in the fifth year, with biographical narratives of universal and local history. In the succeeding years the biographical element is gradually diminished, simple generalizations are introduced, and more serious work is attempted in the last two grades. In short, the subject matter increases in difficulty *pari passu* with the growth of the child mind. *Secondly,* the course contemplates that the child shall master a clear and definite quantum of knowledge of the history of his country. He is made to follow the steps in the development of his country as it grew from a collection of trading posts and wilderness settlements to its present position as the foremost nation of the world.

Thirdly, the course of study aims to broaden the elementary school pupils, more than ninety per cent. of whom will not continue their studies after graduation from the elementary schools by a study of the history of a country other than their own. From the world view the mere study of American history, a period of some four hundred years, is apt to give our pupils a distorted view of the history of the world, and to blur their perception as to their own place and the place of their country in the great movements of men. No school boy in any other country in the world is placed at such a disadvantage in studying the history of his country. The educational value derived from the study of the history of a country whose civilization has passed through so many stages, and whose development so truly forms the foundation for the superstructure of American civilization, can certainly not be questioned by any one whose aims are, in the true sense, educative. Hence the full and complete justification for the introduction of the study of English history in the course of study of the elementary schools.

Fourthly, the "patriotic ideal" is clearly enunciated. The course of study in history aims to impart to the pupil clear conceptions of the essential ideals of our American commonwealth. He is to master the fundamental political ideas of our republic. In the desire to lead him through the centuries of "political experience" before Anglo-Saxon ideas became the common heritage of the American colonist, an additional reason is found for the introduction of English history in the seventh year of the elementary schools. It is rightly supposed that through the study of English history the minds of the pupils will be better prepared for a thorough understanding of our political and social system— a *sine qua non* of good citizenship.

While the first two principles above mentioned are merely pedagogical, the third and fourth are true educational conceptions which underlie the course of study. The importance of the seventh year history in our course of study is therefore self-evident and justifies special consideration at the hands of the teacher. But aside from that there are special considerations which make an article such as this, timely. English history is a new subject in our course of study; text books suitable for grammar school pupils have not as yet been written; "the subject has not been worked up" by teachers of elementary schools; there has as yet been no exchange of ideas or comparison of notes as to plans and methods; moreover, the recent introduction of the departmental system necessitates a better grasp of the subject, a more thorough preparation and a clearer understanding of aims and purposes on the part of the teacher. Furthermore, the teaching of English history as outlined by the course of study and syllabus presents innumerable technical difficulties. From the standpoint of the "patriotic ideal" we cannot give too much attention to the study of English institutions, but only by most skilful use of material is it possible to teach institutional history to a school boy or girl but slightly over twelve years of age. The difficulty is increased by the express provisions of the syllabus for the study of the narrative, institutional, social and industrial phases of English history. The syllabus expressly provides that all these aspects must be dwelt upon, though the teacher is cautioned to exercise judgment in the selection of topics for study, and greater attention to the narrative aspects of the subject is explicitly enjoined. The problem then as it presents itself to the teacher is "How to blend the narrative, institutional, social and industrial phases of the subject"—a most difficult task. It is hoped that a practical statement by one who has made the teaching of history a specialty, and who is not unfamiliar with the needs, methods and capacities of our elementary schools, will be of some assistance to the host of history teachers, to whom the teaching of English history is, from the nature of things, a comparatively strange field.

II. PRACTICAL SUGGESTIONS.

Scope. The time allotted to the subject, the immaturity of the pupils, and the length of the period studied, make it impossible "to cover everything of importance." The problem then becomes a question of relative importance. Much pruning must be done or the very end sought will be lost sight of. This necessitates some guiding principle of selection by which the important, from our point of view, may be emphasized, while the unimportant may be relegated to its proper place. If we bear in mind the two above-mentioned educative principles underlying the course of study in history, the "principles of selection" suggest themselves:

1. *Such parts of English history should be emphasized in the treatment of the subject as will instill into the minds of our pupils the common conception of the Anglo-Saxon ideals of liberty, self-government, and respect for law and order.*

2. *Such parts of English history should be emphasized in the treatment of the subject as will more clearly bring out the idea of the* Growth *of these ideals; such as will show these institutions in the making.*

3. *Such parts of English history should be emphasized as will bring out the contrast between the life in olden times and that amidst modern conditions by tracing the gradual change from the old to the new.*

Elaborating these three principles it would seem that as a result of one year's teaching of English history in the elementary schools, pupils should at least have a clear perception of the following fundamental generalizations:

(A) The English people constitute a race mixed in various proportions. The primitive Celts, Romans and Danes have contributed least to the making of the English people of to-day, while the Teutonic and Norman invaders have contributed most to the formation of the English character. (B) The Anglo-Saxons, as primitive Teutonic tribes, have given to England ideas of local self-government in their widest application, while the Normans have given to England ideas of responsible central government. (C) These two elements of centralization and decentralization have been gradually and imperceptibly blended from the days of the Norman Conquest. (D) The unique characteristic of the course of English history is the slowness with which important changes were made. (E) English liberty is the result of the interaction of the three forces in English society: the people, the nobles and the king. By a constantly changing interaction of these forces the people have obtained control, while the king and the nobles have been relegated to their subordinate positions in the system of English government. (F) In recent times freedom and democracy have grown in England under the old monarchial forms. (G) The American colonists, when they became practically English settlements, were considered Englishmen in full possession of the rights of Englishmen. (H) Unlike the condition in our country, the Church has exercised a most powerful influence in the affairs of the English nation, although it never was strong enough to dominate the state. (I) England has gone through a change from a mediæval feudal system to a modern system of society. (J) The history of England shows a change in manners and custom from those of a primitive people, through the different stages of civilization. (K) England has undergone changes in its economic condition; these changes to a large extent explain the present day conditions of our country. (L) Since the days of the Norman Conquest the English have exercised a strong influence on the affairs of Europe. (M) English history shows the expansion of England from a small island country to a world empire. (N) The history of England shows a gradual but slow advancement towards the ideals of humanity.

Method. The scope of work indicated above naturally suggests the method of treatment. To develop the enumerated fundamental generalizations, English history should be divided into its distinctive periods:— Roman, Anglo-Saxon, Norman, etc. The dynasties and sovereigns can be used as a skeleton framework, supplying a chronological basis for the narrative. In studying the narrative, such incidents and events should be emphasized as will bring out in proper relief those fundamental ideas of institutions and social conditions which the pupils are to assimilate. The personal element can and should be made prominent even in the teaching of institutional, social, and industrial phases. *Use a narrative to bring out every phase of the subject.* Thus around the stirring events of Runnymede the ideas of English liberty as they are expressed in the Magna Charta can be emphasized and the constitutional abstractions will be as easily mastered as the concrete realities of historical personages, "brought to life again" by the skill of the teacher or text-book writer. Similarly some time spent in the study of the personality of John Bull and Wyclif will make real the significance of the social change England was undergoing in the days of Richard II. Charts and maps will be found of great assistance. The oral method, much explanation, will be necessary to supplement the text-book. Frequent recapitulation should be made to show the growth of institutions and to contrast conditions. Only in this way can all the important phases be treated adequately, and with a due regard to their relative importance.

Considerable attention should be given to the early and the latest periods of English history. The text books in vogue are very deficient in this respect. They give very little space to the Anglo-Saxon period, and to the significant events of the nineteenth century. Clear ideas of the institutions of old England are essential for a correct understanding of the later periods of English and American institutional developments, while the study of English history of the nineteenth century is the best preparation which our elementary schools can give for broad ideas of world-citizenship and modern problems. One quarter of the time allotted to the subject should be given to the period ending with the reign of Henry II.; another quarter to the period ending with the reign of James I.; another quarter to the period ending with the reign of George II., leaving the remaining quarter to the study of the period of the American and French Revolutions, and the Nineteenth Century.

III. Topical Analysis.

The following topical analysis is arranged to carry out the method of treatment as suggested above. It includes all the topics mentioned in the syllabus issued by the Board of Superintendents, but the topics dealing with the narrative, institutional, social and industrial aspects of English history are rearranged and their treatment indicated in their appropriate periods. Comments on the relative importance of the topics given are added in their respective places. In general, it may be said that the following topics are of little importance: The Border Wars with Scotland and Wales, the details of the Hundred Years' war, the Wars of the Roses, and the religious struggles in the period of the Tudors.

A. OLD ENGLAND.

(a) THE ROMAN PERIOD.

Under this heading the transient character of the Roman influence on Britain should be pointed out.

(b) THE ANGLO-SAXON PERIOD (449-1066).

1. Period of invasion and conquest.

The general character of the Teutonic invasions into the Roman Empire should be pointed out. A spirited narrative of the invasion and conquest can be given. The personality of King Arthur can typify the vain struggle of the old against the new.

2. Conversion to Christianity.

The heathen religion of the invaders should be slightly touched upon. The work of conversion accomplished by St. Augustine and St. Patrick should be touched upon; a clear conception of the monastic system should be given.

3. Consolidation.

In this period should be studied the contest that was being waged between the numerous kingdoms that had grown up on English soil as a result of the migration and settlement of these Teutonic tribes. Alfred, the Great, can be made to represent the product of the union of these petty kingdoms under the leadership of Wessex; his reign can be made the point of departure for a study of the attempts of the Danes to obtain a foothold in England, and Canute can typify the renewal of the Teutonic invasion. At this point the pupil should be made acquainted with the foundations of Anglo-Saxon institutions—the early Saxon village, the town meeting, the town officers, Witan, the elective king, the primitive forms of the judicial system, trial by ordeal and compurgation.

B. MEDIAEVAL ENGLAND (1066-1485).

(a) THE NORMAN PERIOD (1066-1154).

1. WILLIAM THE CONQUEROR.

Emphasis should be laid on the following topics: the story of the invasion, the changes introduced by William, the effect of William's work on the subsequent history of England. It means three centuries of French influence on England. The personality of William should be studied in detail. He can typify the strong King, checking the disintegrating tendencies of the Feudal Society. The Feudal System should be studied at this point. A correct understanding of the system will serve to give a clear conception of society in the Middle Ages. The feudal terms: aids, incidents, freeman, villain, serf, lord, vassal, knight, should be carefully explained.

2. WILLIAM II.

Reign of little importance.

3. HENRY I.

His charter and its importance in the development of English liberty should be explained. It should be shown that the grant was only a pledge to observe the old customs of England.

4. STEPHEN.

A period of anarchy, showing weakness of the feudal system.

(b) THE PLANTAGANETS (1154-1399).

1. HENRY II.

His work of administrative reform,—his attempts to unify the judicial system bring him into conflict with the Church. At this point, the influence, power and position of the mediaeval Church is to be studied. The struggle between Church and State is to be explained in the story of the conflict between the King and Becket.

2. RICHARD I.

The Crusader King,—the causes and the results of the Crusades are to be emphasized at this point.

3. JOHN.

His reign is a most important one from the institutional point of view. The Magna Charta establishes three principles: trial by jury; no taxation without consent; free justice. In form a grant from the King, the charter is in fact a concession wrested from a tyrannical ruler. The narrative of the events in John's reign can be made replete with interest, while even some of the dry provisions of the Great Charter can be interpreted to bring out the spirit of the age.

4. HENRY III.

His reign represents the struggle of the Barons to maintain the rights granted by the Charter of John. De Montfort's parliament of

1265 and its importance should be dwelt upon but not overestimated. It did not represent the nation.

5. Edward I.

His model parliament. Here the development of the House of Parliament from the Witan of the Anglo-Saxon period, the Great Council of the Norman Period, to its complete organization in the Model Parliament should be studied. Edward's reign marks the expansion of England in the conquest of Scotland and Wales. His great laws and policies should be emphasized. His personality should be studied in detail.

6. Edward II.

Reign unimportant.

7. Edward III.

A brilliant but barren reign; wars with France,—the Hundred Years' War,—English victories.

8. Richard II.

The man—his deposition, shows the growth of power of Parliament—it deposes a king. In Richard's reign, should be studied in detail the social conditions of England in the Fourteenth Century. Town life, the guilds,—merchants,—the manorial system,—rural life,—the social and religious unrest,—the Lollards,—the passing of serfdom and the beginning of commerce should be carefully treated. Clear conceptions on these topics must be given to the pupils.

(c) The Lancastrian and Yorkist Periods (1399-1485).

1. Henry IV. 2. Henry V. 3. Henry VI. 4. Edward IV. 5. Edward V. 6. Richard III.

The self-destruction of Feudalism,—the War of the Roses, causes and effects. Few details need be studied in this period, but the introduction of printing and its epochal significance should be noted. Emphasis should be laid on the commercial development of England in this period in spite of the internecine strife of the nobility.

C. MODERN ENGLAND.

(a) The Tudor Period (1485-1603).

1. Henry VII.

The growth of nationality,—the rise of the power of the king as a reaction from the foregoing period of anarchy,—interests in discoveries and explorations.

2. HENRY VIII.

The revival of learning and the Protestant Reformation. An important reign.

3. EDWARD VI.

4. MARY I.

The religious struggle between the Protestants and the Catholics and the spirit of bigotry which animated the contestants should be brought out. These reigns can be made to teach the lesson of toleration.

5. ELIZABETH.

The final establishment of Protestantism,—the rise of Puritanism,—the rise of English commerce,—the beginning of English colonial policy,—the struggle with Spain for the supremacy of the sea. English influence on affairs of Europe, and the personality of the Queen should be emphasized.

(b) THE STUART PERIOD (1603-1688).

1. JAMES I. AND CHARLES I.

The period of effective colonization in America and India,—formation of companies,—the Puritan migration,—the struggle between the King and Parliament,—the doctrine of the Divine right of kings,—the position of Parliament,—the petition of right, the Long Parliament,—its parties and leaders.

2. THE COMMONWEALTH AND THE PROTECTORATE.

The execution of the King,—the temporary establishment of a republic in England,—its failure,—causes,—results.

3. CHARLES II. AND JAMES II.

The restored Stuarts,—expansion of possessions in the new world,—new colonies founded,—commercial wars with Holland,—political alliances with France,—why the Restoration could not be permanent,—characteristics of the Stuart sovereigns.

(b) THE ORANGE-STUART PERIOD.

1. THE REIGNS OF WILLIAM AND MARY. AND ANNE.

Overthrow of James II.,—the causes,—the religious question.—the constitutional question,—what the revolution of 1689 accomplished,—the absolute supremacy of Parliament,—the Bill of Rights,—its significance for England and America,—the foreign policy of England as modified by

William III.,—European Wars,—the political and colonial questions involved in these wars,—the theory of the balance of power,—the union of England and Scotland.

(c) The Hanoverian Period.

1. The Four Georges.

The rise of the Cabinet system,—its importance,—the powers of the King, Cabinet and Parliament,—comparison with those of President, Cabinet and Congress,—the English wars in the Eighteenth Century,—their commercial character,—the industrial revolution of the Eighteenth Century,—the restrictive colonial and industrial policy,—the theory of the staple leading to the revolt of the American colonies, and the loss of the American possessions,—the American influence on England,—universal suffrage,—public education,—a new colonial policy. The era of the French Revolution and England's attitude,—ideals of evolution versus ideals of revolution. The Napoleonic Wars,—their political and social effects on England.

D. THE NINETEENTH CENTURY.

The period of political agitation and reform,—chartism,—the expansion of suffrage, educational reform,—social legislation,—prison and other reforms,—factory legislation,—industrial development in the Nineteenth Century,—the development of the factory system,—inventions,—organization of labor and capital,—Wars: their commercial character,—the Crimean War,—Wars in the East,—colonial expansions,—imperial federation,—the position of England to-day.

IV. SELECT BIBLIOGRAPHY FOR TEACHERS.

(A) Pedagogical Books:

1. The Study of History in Schools,—the Report of the Committee of Seven to the American Historical Association (Macmillan, 1899).
2. Studies in Historical Method, Mary Downing Barnes (Sheldon), (Heath, Boston, 1896).
3. History Teaching in Schools in "Studies in Education," 1896, Burke Aaron Hinsdale.
4. How to Study and Teach History, Burke Aaron Hinsdale (Appleton).
5. Methods in History for Teachers and Students, W. H. Mace (Ginn, 1897).

The foregoing books are suggested to those who are interested in the new and advanced methods of teaching history. The Report of the Committee of Seven especially is a most suggestive and stimulating book.

(B) INTRODUCTORY VOLUMES:

1. History of England, C. M. Andrews (Allyn & Bacon, 1903).
2. The British Nation, George M. Wrong (Appleton, 1903).
3. A History of Western Europe, J. H. Robinson (Ginn, 1903).

These are the most recent and the most scholarly single volume text books; accurate and concise with a due regard to social history and other facts. All have references of detailed phases of the subject at the end of each chapter. Prof. Robinson's volume gives the most scholarly survey of European history, a knowledge of which is so necessary to the teacher of English History. His chapters on the mediaeval church, Feudalism and Life in the Middle Ages are unexcelled.

(C) GENERAL WORKSS

1. Short History of the English People, J. R. Green,—a most human work on the subject; truly a history of the people; every phase of the subject is touched upon.
2. A Student's History of England, S. R. Gardiner, replete with facts; scholarly.
3. Social England to 1885, H. D. Traill,—a monumental work of reference.

(D) CONSTITUTIONAL HISTORY:

1. English Constitutional History, Medley,—the best one-volume book on the subject.
2. History of English Parliament, A. Gneist.
3. Constitutional History of England, William C. Stubbs, 3 volumes.

(E) INDUSTRIAL AND SOCIAL HISTORY:

1. Industrial and Social History of England, Cheyne.
2. Landmarks in English Industrial History, G. T. Warner.
3. Growth of English Industry and Commerce, W. Cunningham,—a splendid work on the subject.

(F) COLONIAL EXPANSION:

1. The Expansion of the British Empire, Woodward.
2. Short History of British Colonial Policy, Egerton.
3. The Growth of English Policy, John R. Seeley.

(G) ORIGINAL SOURCES:

1. Select Documents of English Constitutional History, Adams & Stephens.
2. Source Book of English History, Kendal.
3. Source Book of English History, G. C. Lee.

English—7B.

By Ella K. Jelliffe, Public School 70, Brooklyn.

First Month.

Composition: Four periods a week, every afternoon except one.

Narration: (Gluck and the Little Old Gentleman—Ruskin's King of the Golden River). First lesson—Study of Specimen. Second, Preparation of Outlines. Third, Imitation or Reproduction. Fourth, Oral Reports on Home Reading (current events, magazines, newspapers, library books, etc).

Description: (Prue and I—Curtis's My Grandmother's Portrait).

1. Study of Specimen.
2. Outlines.
3. Imitation or Reproduction.
4. Oral Reports on Home Reading.

Exposition: (The Dutch and Quaker Colonies in America—Fiske).

1. Study of Specimen.
2. Outlines for Paragraphs.
3. Imitation or Reproduction.
4. Reports on Home Reading for Oral Composition.

Letters: (See Chapter XI of Writing in English—Maxwell-Smith).

1. Social.

2 and 3. Business.

4. Oral Reports on Home Reading.

If the imitation or reproduction be written at home, the period in class may be devoted to correction, laying stress on clearness and accuracy, and applying rules of syntax. The abbreviation "Cl," for lack of clearness, may be added to the list given in 7A, and compositions be corrected with that one thought in view. Such common rules of syntax as "Transitive verbs govern the objective case," "Two or more subject nouns connected by *and* require a plural verb," "Attributes must be in the same case as the subjects," etc., may be taught incidentally, and as an aid to clearness and accuracy. The position of word, phrase, and clause modifiers must be discussed from this standpoint of clearness also; reference may be made to Maxwell's Advanced Lessons in English Grammar, Nos. 596, 597, 598, 599, for position of adjective modifiers, adverbial modifiers, prepositions, and correlatives, as need occurs in the compositions. As a rule, have the compositions short, not more than four paragraphs or five short ones, and insist on careful English. Have, each term, one or two long compositions on an interesting subject.

SPELLING.

FIRST MONTH.

Three twenty-minute lessons a week, to precede and aid the reading lesson. Seventy-five new words a month; these words to be chosen from the lessons of the grade and from the pupils' vocabulary. Review of words frequently misspelled, as noticed in the compositions and other written work of the class. Ten words to a lesson. Twelve groups of synonyms a month, three a week, one group in each spelling lesson besides the ten new words. See "Writing in English," p. 201, 202; also Spellers in use in the school, for good groups of synonyms.

Use of dictionary during every spelling lesson for a few words, at least. Finding definitions quickly, looking for preferable pronunciations (use of diacritical marks), judging which of the various meanings is best suited to the special use of the word in the reading lesson.

In oral spelling, pronounce the word before spelling, divide it into syllables (without naming them). Have a written lesson twice a month, reviewing the words previously studied.

READING.

FIRST MONTH.

Three twenty-minute lessons. Perhaps Longfellow's "Evangeline" may be chosen for the masterpiece in poetry, and Franklin's "Autobiography" for prose. Use the same plan as suggested in syllabus for 7A—that of three readings; first, for general conception (part of this reading to be done by the teacher, part by pupils in class, and part by pupils at home). Second reading for appreciation of the beauty of the selection. In Evangeline, note the beautiful descriptions, similes and metaphors, note the plan of the author, the delineation of character. Third reading for effective oral rendering of fine parts of the poem, those parts that appeal to the imagination and sympathies. (In Evangeline, the scene on the seashore before embarking; the drifting down the Mississippi, the lovers passing each other; the home of Basil in New Orleans, the meeting at the death bed in the hospital, etc., etc.)*

For ethical lessons and use of library books, see notes for 7A.

MEMORIZING.

FIRST MONTH.

Eight lines a week, at least.

Selections from "Evangeline," or from whatever other masterpiece has been chosen for appreciative reading.

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*Have first reading and half of second reading, this first month.

Evangeline—lines: 1-19 (Introduction) 20-57.

Memorizing to be done at home or during study period in school. Recitation during opening exercises or in unassigned time Occasional writing of selection.

SECOND MONTH.

Composition:

Narration: (The Owl in the Cherry Tree—Burrough's Birds and Bees.)

Three lessons as in first month; viz., study, outlines for paragraphs, imitation or reproduction. Have the selection put on the board or supply pupils with the books containing it, if possible—they are on the supply list—and read three times as suggested in syllabus for 7A—first, for its general import; second, for subject-matter, plan and expression; third, for increased appreciation.

Description: (Imperial Library of Vienna—Taylor's Views A-foot.)

Three lessons; also the lesson on outlines need not always be constructed for the specimen studied, but sometimes for the imitated or similar composition which is to be written the following day. For lists of subjects for the various kinds of composition, see Writing in English, pages 15 and 16.

Exposition: (The Circulation of the Blood. See some good Physiology). Three lessons.

Letters: business and social, two of the former, one of the latter, a week. See Ward's Business Forms, also the chapter on Letter Writing in "Writing in English," and other books on English composition. Hill's and Gaskell's Compendiums contain some good business letters. During the forty-minute period one of these letters could be studied and another written. Under the head of social letters, formal and informal notes of invitation, acceptance, regret, acknowledgment, thanks, appointment, introduction, etc., may be written.

The fourth lesson, each week, is for oral composition, reports on home reading Encourage the children to tell a good story, clearly, connectedly, distinctly, to be prepared beforehand, as a clergyman or lecturer is, with a few headlines, just the subjects of his paragraphs, following one another in logical order, steps mounting upward, the most important thing last and most emphatically narrated.

Guide the pupils to select really important items of news, by wise praise of some good selection, by hastily passing over some unimportant or undesirable topic. Refuse to hear about murders or kindred subjects; advise the pupils not to read them, but to look for topics of municipal, national, or international interest, as well as for incidents of philanthrophy, biography, or travel, and for stories that touch and appeal to all mankind.

READING.

Three twenty-minute lessons a week.

SECOND MONTH.

Finish second reading of poem.

Proceed with ethical lessons daily, a few minutes at the beginning or close of the day.

Encourage children in the proper use and care of library books.

SPELLING.

SECOND MONTH.

Three twenty-minute lessons preceding reading lesson.

Follow same plan as first month. Seventy-five new words, twelve groups of synonyms and frequent (daily) use of dictionary.

MEMORIZING.

SECOND MONTH.

The last nineteen lines of Evangeline—Tennyson's Bugle Song.

THIRD MONTH.

Composition, Narration: The Teapot (Andersen), three lessons (study, outlines for similar composition, imitation or reproduction).

Description: The Toyshop Window (Hawthorne's Little Annie's Rambles). Three lessons also.

Exposition: Landseer's "The Highland Shepherd's Chief Mourner," (Ruskin's Modern Painters). Three lessons also.

Letters: social and business, three lessons also. (Letters of complaint, letters asking and giving recommendation, letters of application for work, etc.)

The fourth lesson each week is for oral reports of home reading. In the study of specimens, notice clearness of style, accuracy in choice of words, plan of paragraphing, etc. The making of outlines helps greatly in paragraphing.

Reading: Third reading of poem and first reading of prose masterpiece.

Ethical lessons continued.

Spelling: Seventy-five new words, twelve groups of synonyms, use of dictionary.

Memorizing: Charge of the Light Brigade.

FOURTH MONTH.

Composition, Narration: Death of Wolfe (Parkman's Montcalm and Wolfe).

Description: An Underground Flower (Gibson's Sharp Eyes .

Exposition: How Paper is Made.

Letters: business and social.

Oral reports on home reading once each week.

Reading: Second reading of prose masterpiece.

Spelling: Finish the 300 new words, take twelve more groups of synonyms. Use of dictionary.

Memorizing: "There was a sound of revelry" (Byron).

FIFTH MONTH.

Composition, Narration:

1. "Biography of Longfellow."
2. Reproduction of portions of Franklin's Autobiography.
3. An amusing incident.

Description: Characters or scenes from Whittier's Snowbound. Three lessons.

Exposition: Winter Fishing. (Holmes, pages from an old volume of life); or some original subject, as Why Spring Comes; the making of a book, etc. Social and business letters, addressing envelopes.

Oral reports on home reading.

Reading: Third reading of prose masterpiece.

Spelling: Review.

Memorizing: Thanatopsis (Bryant.)

Critical Study of "The Deserted Village."

By George W. Dorland, Instructor, P. S. 28, Bronx.

At the outset, let me say that I believe too much attention is paid in the new course of study to "appreciative" reading, and too little to the critical study of masterpieces. In fact "too little" might well be "none at all," as far as the directions of the syllabus go. While it may be very true that deep critical study of literature is beyond the grasp of pupils in the elementary schools, and while "appreciation" may be what we are seeking, I still hold it to be equally true that a certain amount of critical study and analysis is necessary to such appreciation. And as to its being beyond the grasp of the pupils, the probable average age before long in the eighth school year will be over fifteen years, and at that age many of us who are now teaching were critically studying, and memorizing, and "appreciating" masterpieces.

Appreciation, *per se*, cannot be "taught." So many faculties and conditions enter into this power, so much is merely subjective, that it may be impossible for some persons, no matter of what degree their mentality, to appreciate a masterpiece. They may read a poem a hundred times and yet fail to grasp its meaning or to see its beauties. There are even some who fail to do this after critical study and explanation. But, I believe, in general, many students, whose minds otherwise would indolently slur over a subject, are brought by a critical study to a realizing sense of the meaning and the beauty of a poem; and this may awaken a dormant faculty of appreciation, when such exists.

Of course, the critical study must be pursued mainly as a means to an end. Otherwise it soon develops into a mere grammatical rhetorical exercise. Such an exercise I do not mean to condemn; I believe it has uses, and good uses, too. But with an appreciation in view, all methods leading thereto must be subordinated.

I believe in teaching the easily recognized figures of speech. A child from twelve to sixteen years of age can recognize the marks of the easily understood figures as well as can a man of fifty. He may not grasp the beauty of the figure, or understand its aptness, but he can name it, and this to my mind is of incalculable benefit to him in later work.

I preface the real subject of this article by these remarks in order that some one may not raise his hands in holy horror and say that study such as that here outlined is too deep for elementary schools. What is here given is not to be accepted as final. Many classes cannot begin to cover all the ground; some can do more than is laid down. All I can do is to outline a suggestive and, I hope, thoughtful study.

One topic, upon which the English syllabus is not as explicit as it might well be, is that of the study of an author and his life in connection with his work. It is very helpful to know something of these things, especially those that have to do directly with the masterpiece under consideration. Whether this subject should precede or should follow the first rapid reading, is a matter for personal decision. I am inclined to believe it should follow. Certain other topics of interest with reference to the particular selection should also be alluded to at this time, To be more specific, let us take Goldsmith and "The Deserted Village." The dates and biographical facts will be found in connection with any good student's edition. Goldsmith was a man whose genius was promoted chiefly by observation. He was not of those who regard books as the only, or even the principal, source of knowledge. It is true he was a scholar. Love of study and research were part of his nature, but nature and man were his best loved studies. And it was this love of observation that led to his roving life and his foreign travel—travel, be it noted, mainly *on foot*. The cardinal principle of his life and of his poetry is simplicity. In the "Deserted Village" we find no forced transpositions, no uncommon meanings of words, no coinage of new words, no far fetched epithets. And while the poem is full of imagery, the pictures are drawn from obvious sources, flow naturally, and are presented by means of common words and phrases. The keynote to Goldsmith's genius is recorded in the lines

"To me more dear, congenial to my heart,
One native charm than all the gloss of art."

But the simplicity and easy flow of the lines of the "Deserted Village" must not be taken for glib facility. It is said that the poem was so thoroughly revised that not one original line remained.

The "Deserted Village" is an excellent example of the use of the prose paragraph in poetry. This is easily to be distinguished from the stanza by its varying lengths. The breaks in continuity depend on change in the subject of thought, not on a definite number of lines. This is a great help in studying the poem. These poetical paragraphs might be briefly summarized by topics as follows:

1. The village, happy and prosperous.
2. The village, desolate.
3. Importance of a "bold peasantry."

4. England in a kind of golden age of equality.
5. Contrasted with present condition of England.
6, 7 and 8. Personal complaint—blasted hopes—portrait of scholar in retirement.
9. Return to contrasting conditions of Autumn's two aspects, with descent into details.
10, 11, 12 and 13. The village preacher.
14. The school.
15 and 16. The tavern.
17. Comparison of pleasures of poor and rich.
18. Argument against superfluous wealth.
19. A land "betrayed" by luxury.
20. "Where then shall poverty reside?"
21. Contrasted scenes of magnificence and misery in Metropolis.
22. Are the former inhabitants of Auburn here?
23. Comparison of sub-tropical America with former scenes.
24. Sorrows of departure from native land.
25. Curses of luxury.
26. The rural virtues. Invocarion to poetry.

I shall now take up as many of these as may be convenient, leaving the treatment of the remainder for individual working-out. Assuming that the edition studied is annotated, I shall make little reference to such topics as are so treated.

In Paragraph 1, notice in what different ways Goldsmith shows the *charms*, and what varied *charms* he gives. Auburn has a long summer—

> "Where smiling spring its earliest visit paid,
> And parting summer's lingering blooms delayed."

The things we see, the mere constituents of the natural scenery, are charming. The people's sports are charming. Paragraph 5 is a good example of a section which needs grammatical explanation and understanding. The pupil must see that not only "Unwieldy wealth and cumbrous pomp," but also "every want to luxury allied, and every pang that folly pays to pride" are the subjects of the verb "repose." Then "those gentle hours," "those calm desires," "those healthful sports," each with its accompanying relative clause, "these" (the demonstrative used because the various grammatical subjects are so far removed from the predicate) "seek a kinder shore."

Paragraph 7 furnishes good work in grammar and figures of speech. "And God has given my share," and "for pride attends us still" are parenthetical. "To husband out life's taper at the close, and keep the flame from wasting by repose" is a fine metaphor. The hare and hounds simile is too well-known to need further elaboration.

Paragraphs 10 to 13. The village preacher, a probable literary inheritance from Chaucer and Dryden, is portrayed in a somewhat loose manner, but he is made very human. He is perhaps not a model of propriety, he consorts with low characters, he is "careless their merits or their faults to scan," but his failings, and they are not hidden, "lean to virtue's side." The preacher is supposedly a characterization of the poet's brother, Henry. The soldier who "shouldered his crutch and showed how fields were won" is known to have been a frequent guest at the house of Goldsmith's father, and it is extremely probable that the "long-remembered beggar" and "ruined spendthrift" were life portraits. The simile of the bird and its offspring and the preacher and his parishioners is one of the first in all poetry, and is furthermore original. The other famous one of the tall cliff is not original in idea, although it has probably never been so well expressed and applied.

Paragraph 14 gives us another personal portrait, that of the poet's early teacher. Notice how skilfully we are given the point of view of the simple English peasantry as to "how much he knew." "He could write, and cipher, too," etc. Of course, in line 211, the parson "owned up" to (as the boys say) his skill,—confessed his skill. I mention this because I have seen much trouble experienced with this line.

Paragraphs 15 and 16. The picture of the village tavern is one of the best examples of descriptive poetry in the entire masterpiece. A place where the news was much older than the ale—the parlor splendors catalogued—and the best expressed reason I have ever met with for the existence of the tavern; not because the peasant has a good time there, not because of the drink, but because it imparts "an hour's importance to the poor man's heart."

Paragraph 17. Besides containing the lines already referred to as giving the key to Goldsmith's peculiar genius, ends with a fine example of high moral poetry. "The heart distrusting asks if this be joy?" (Note incorrect use of interrogation point.)

Paragraph 23. Goldsmith's use of unforced, natural, yet intensely descriptive epithets is well shown here: "dart a *downward* ray," "*intolerable* day," "*matted* woods," "*ratting* terrors of the *vengeful* snake," "*ravaged* landscape." Other good examples of this may be found throughout the poem, as can examples of that high form of true poetic language, the production of an image by the use of a word, e. g., "murmurs *fluctuate* in the gale," "resignation gently *slopes* the way," "the black gibbet *glooms* beside the way," "indignant *spurns* the cottage."

I append some miscellaneous questions which might prove useful in reviewing.

Put into prose order (a) line 57; (b) lines 113–114; (c) line 141; (d) lines 201–202; (e) line 359, and supply predicate.

Lines 83–88. What kind of clause is "and . . . share?" What word is modified by "in all my griefs"?

Lines 337–340. What does "by cold and hunger led" modify? Antecedent of "they"?

Lines 379–382. What kind of clause is "Where every pleasure rose"? What does "doubly dear" modify?

Give subject nouns of lines 51–52.

Predicate of lines 61–62?

What kind of phrase is line 91?

What kind of phrase is "to share the good man's smile"? (line 184.)

Supply words understood in line 198.

What kind of sentence is line 264 and what clauses are in it?

What part of speech is "distrusting"? (264.)

What mode is the verb in "if this be joy," and why in that mode? Make the quotation direct.

What figures in (a) line 75; (b) lines 87–88; (c) lines 93–94; (d) lines 166–168; (e) line 270; (f) lines 278–279; (g) lines 315–316?

Meanings of decent (12); contending (20); fares (51); usurp (64); fluctuate (126); chid (150); allured (170); transitory (237); baneful (311); intolerable (348).

A few ideas for more careful and critical study follow:

Make a brief abstract of the economic suggestions and arguments in the Deserted Village, stating which are sound and which unsound; which conditions are remediable and which unavoidable and irremediable; whether a "golden mean" would not be better than either Goldsmith's apparent ideal, or the usurpation of "trade's unfeeling train" and "the man of wealth and pride."

In his endeavor to make his point, does not Goldsmith paint, in too glowing colors, the virtues and enjoyments of the peasants? Is there not a correspondent decrying of the pleasures of the rich? Are not the recreations of the well-to-do as wholesome and pleasure giving, on the whole, as those of the poor? Is there no "insidious," "bloated" element in the enjoyments of some poor people, as there is in those of some of the rich? Perhaps the only reason that the poor wretch who drowns his sorrow in drink does not get the question "if this be joy" from his "distrusting" heart, is because his heart is unable to distrust. Is he to be praised because he simply lacks the powers of self-analysis and of contemplation? If so, the possession of these powers "were a grievous fault, and grievously hath" the rich man "answered it." I do not mean by this to decry the Deserted Village or its truth. It is the poet's prerogative to emphasize what he pleases, and suppress what he dislikes, in order to achieve his end. My idea is to bring out the fact, probably transparent enough, that Goldsmith has done just these things in the Deserted Village, and that his economic and critical statements are no more to be taken for strict actualities than are his befogged ideas about American landscape and flora and fauna.

For composition work, the portrait of the preacher furnishes good material. The following outline might serve:

Goldsmith's Village Preacher: character, unambitious, "nor e'er had changed, nor wished to change his place"; independent, "unpractised he to fawn"; charitable, beggar, ruined spendthrift, broken soldier, made welcome; sympathetic, "he watched and wept, he prayed and felt for all."

Habits and duties: "he tried each art, and led the way," practised as well as preached; brought comfort to the death-bed.

How regarded by others: "a man he was to all the country dear"; "fools, who came to scoff, remained to pray"; "the children followed... and plucked his gown, to share the good man's smile."

Other good topics are the schoolmaster, the tavern, and the contrasting conditions of the village, with the causes as given by Goldsmith.

Appreciative Reading in the Eighth Year.

By Ella K. Jelliffe, P. S. 77, Brooklyn.

I.

Reading in the eighth year of school life presents, according to the syllabus given in the new course of study, such masterpieces of thought as Goldsmith's "The Deserted Village," Shakespeare's "Merchant of Venice" and "Julius Caesar," Lamb's "Tales from Shakespeare," Scott's "Lay of the Last Minstrel," Washington's "Farewell Address," and Lincoln's "Gettysburg Address." It is not possible to read all of these in the last year of elementary school life, but "The Merchant of Venice" and Washington's "Farewell Address" might be read in 8 A and "Julius Caesar," and the "Gettysburg Address" in 8 B.

McMurry says, "Our chief concern is not with the formal use of literary materials for practice in reading, but with the moral culture, conviction, and habit of life they may foster. Nor have we chiefly in view the art side of our best literary pieces. Appreciation of beauty in poetry and of strength in prose is admirable and should contribute powerfully to the main purpose. Coming in direct and vivid contact with manly deeds or with unselfish acts as personified in choice biography, history, fiction, and real life, will inspire children with thoughts that make life worth living. Neither formal skill in reading nor appreciation of literary art can atone for the lack of direct moral incentive which historical studies should give. All three ends should be reached." And it is this high triune aim which the teacher should seek to reach in the reading lessons, viz.: knowledge proper, an æsthetic sense, and moral culture. For instance, in teaching "The Merchant of Venice," it is to be taken for granted that the teacher has *studied* the play herself, not merely read it, and that she is thoroughly imbued with the spirit of the drama, has a store of facts concerning the author, the time, and the place (its usages and customs); that she has studied the characters of Bassanio, Antonio, Shylock, Portia, Jessica, and the other persons of the drama, and knows intimately their individual traits and tendencies and motives. Then she is ready to lead her class beside the still waters of pleasant and profitable thought.

The tale might be read first from Lamb's collection, for the plot. Bearing in mind the necessary correlation of studies, one should serve and lead into another. A little talk about Charles and Mary Lamb and their work and the time in which they lived might be given by the teacher as introduction to this reading of the tale. In fact, a judicious helping by the teacher aids the pupil to do some research work himself—a sense of fair play—the teacher does her share of the work, the pupil does his—and an incitement to know more of the world's history, since the teacher knows so much, creep into the mind of the pupil and urge him on to overcome difficulties, besides the innate pleasure there is in the acquisition of knowledge itself.

In this one lesson of reading and in this one masterpiece—"The Merchant of Venice"—come lessons of History; Shakespeare's time, the days of the glory of Venice, the intolerant feeling of one class of people against another; manners and customs, etc.; lessons of Geography; location of places, dangers of the sea in olden times, bringing the thought of the greater safety now, owing to greater knowledge and more perfected means of travel; lessons of language, grammer, style, beauty of expression, etc.; and, best of all, lessons in morals, justice, mercy, friendship, loyalty, filial duty (by its violation in Jessica), the sin of avarice, and of hatred, which leads to murder, etc., etc. Of course, it is natural for children to take sides and they will not have read far in the story before all their sympathies will be against Shylock and with the merchant and they will applaud Portia's Daniel-like decision against the Jew; moreover, they will go further and, with the author, will commit the fault against the Jew for which he was punished, i. e., justice carried to an extreme and untempered by mercy. However, if the pupils can be brought to see that mercy is a higher virtue than justice, that friendship is a sacred thing, that unkind feelings lead to hate, and hatred to murder, they have made a great ascent up the ladder of truth. It is, however, one thing to read of heroic deeds, of friendship that lays down its life for a friend, of purity of life, and another thing to put these lessons into daily practice. And yet is this not the chief aim of education: To teach the children how to live? After the study of such a masterpiece in the class-room should there not be more loyal friendship among the members of the class, more tolerance for those we do not like, more sweetness in the judgments pronounced on the actions of others, more generosity of thought and deed? Besides a wider and deeper knowledge of history, geography, language, *and of humanity?*

II.

There is nothing new to be said about Washington's "Farewell Address." The only thing is to awaken the pupils' interest in the man anew. The teacher might prepare an interesting little account of the man from an entirely new standpoint, telling of his life in the South, of his lineage, his rise in military genius, his traits of character as shown in emergencies and hardships during the American Revolution, his development of character, as shown in his progress from one post of service to a higher, and then to the highest in the land. Quote some of his own maxims written, with rare forethought and insight into human nature, for his own guidance, and make the biography a character study, instead of a dry summary of dates and facts, as the children would probably make it if asked to write it; or, better, prepare the topics and questions and give them to the children to answer. This by way of introduction to the address. Then the address itself, read three times, as suggested in syllabus. First, all through, for its general purport; secondly, by paragraphs for thought and language; thirdly, by topics, to get the purposes of the author. Guide the children to make their own topical outlines. The valedictory or backward look; advice for the future, subdivided into Unity of Government, Duties of Citizenship, etc., may be suggested as a few topics. The study should lead to appreciation of the thought—lofty, unselfish, far-seeing, and of the beautiful style in which it is couched. In correlation with History there is no finer treatise on Government, especially Republican Government, than that given in this address, written first in 1792, just before he entered (reluctantly) on his second term of office, and amended in 1796, when it was presented to the public. Study the administration of Washington. W. C. Ford says of it: "The address contains the essence of a career spent in the public service. A planter in a slave- holding community, a surveyor and soldier on the frontiers of an unknown empire, a Burgess in the colonial legislature, a patriot rising against tyranny and oppression, a commander-in-chief in a long and trying struggle for freedom, and the chief executive of the new State,—here was an experience in war and government that could not but bear fruit. Into the Farewell Address were placed the results of a calm and judicial summary of the lessons learned from that life's experience, and it is this quality that makes it a document of interest, not for a century only, but for all time."

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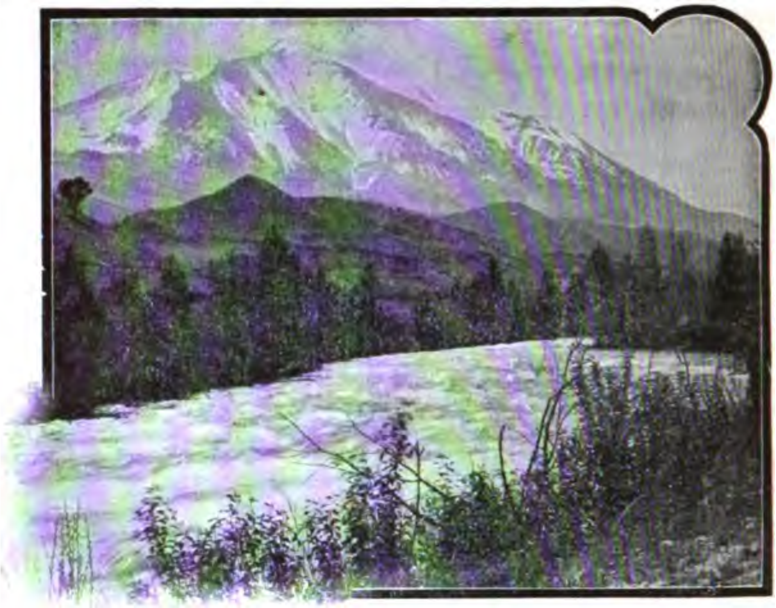

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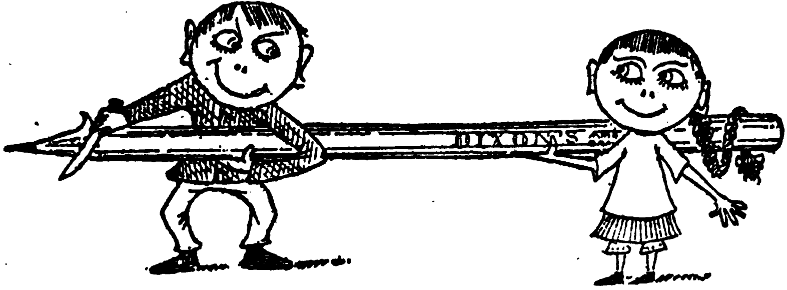

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New York Teachers' Monographs
PLANS AND DETAILS OF GRADE WORK
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Reading to a Class.

ELLA K. JELLIFFE, P. S. 70, Brooklyn.

PRESUMABLY, fifteen minutes a day will be devoted to reading to a class of the first year. According to the syllabus, the teacher's general aim should be—(1) to develop an interest in reading, (2) to cultivate the imagination, (3) to present a model of expression, and (4) to create ideals of right living; in other words, the work, on the teacher's part, is to be creative and educative; and on the pupil's part, imitative and absorptive. The teacher has the divine right of creating and developing an interest in reading—one of the greatest, if not the greatest, of the arts of mankind; she is also in her rightful sphere of educating, or *leading out,* the imagination of the child, *i.e.,* cultivating one of the four great phases of the mind's activity (Perception, Memory, Imagination, Thinking). On the child's part, his instinctive impulse towards imitation is most helpful in acquiring the use of language—he hears a story that interests him, he tells it to someone else; new words creep into his vocabulary, new phrases catch his ear and enter his mind.

The teacher's part of creating ideals of right living has its ethical significance in her selection of reading matter and in her presentation of it, as well as in her power to awaken an interest in Reading, in general. It should go without saying, therefore, that the teacher should choose her pieces with great care, have them graded in difficulty, both of thought and of expression, beginning with the simplest and most attractive and proceeding to more complex as the term advances.

In order to develop an interest in reading, the teacher should be interested herself, in what she reads, as well as interesting to her class in voice and manner; her voice carefully modulated, should possess a brightness, not a loudness, that penetrates to the child's understanding. This brightness of tone may or may not be natural to the teacher, but it can be cultivated—it comes from the soul, its origin is in enthusiasm. If the teacher's whole manner betokens her own delight and keen interest in the story or poem she is reading, and her enunciation is clear, her inflection true, there is no doubt that her class will be interested, provided, of course, that her selection is good and suited to the mental capacity of her hearers, and that the reading is not prolonged enough to weary the children. The selection need not be new to the children to be interesting to them, for do we not all enjoy a good story re-told, but as a rule, it is best to select something unknown to the pupils, and thus add to their store of thought and of language; and to quote from the syllabus: "The most instructive reading for a person of any age, old or young, is that in which the author's tone of thought is above the average tone of the reader's thought, and yet not beyond his grasp."

It is in accord with the most approved laws of Pedagogy that the cultivation of the Imagination should be begun in the very first year of school life, for the powers of mind cannot be dissociated—they are blended together and progress in a body, as the molecules of a substance cohere and move along with it. And yet, as McLellan says in his "Applied Psychology," "Of all the stages of intelligence, Imagination is the least capable of direct training." . . . . It grows with the development of the child in power of feeling and desiring; it grows by what it feeds upon, beautiful scenes, pictures, poems, ideas, characters."

Among other methods—all of them indirect—of training the imagination, McLellan speaks of the study of literature: "The products of the imagination of the race, as embodied in literature are perhaps the most influential means of training the imagination. For young children that literature is the best which is the unconscious product of races and of peoples rather than of the conscious invention of individuals. Fairy tales, folk-lore, myths, historic epics and traditions are natural and healthy. There is a connection between the childhood of the race and of the individual that makes such literature peculiarly appropriate for the imagination of youthful minds."

Endeavoring to embody these aims, I submit the following selections:

STORIES OF CHILD LIFE.

Little by little, and straight and high,
  A bush to a tall tree grows,
Little by little the days go by,
  And a bud becomes a rose.
Little by little the children grow
  Taller and taller, and then
Little by little they change, and lo!
  They turn to women and men.
—Arthur Macy in *The Youth's Companion.*

TWINS.

Two dear little brothers I happen to know,
  They are rosy and dimpled and wee,
But one tiny twin is a little bit slow,
  While the other is brisk as a bee.

Your copybook, from the first page to the back
  He travels with diligent care,
And behind him he leaves such a beautiful track
  Of penmanship upright and fair.

Then grasping a pencil, he ventures to climb
  A long row of figures, and so
Like Jack up the beanstalk, one step at a time
  Straight on to the top he will go.

Then down the next column, in safety at last,
  He comes without blunder or trip,
While his kind little twin holds the slate firm and fast,
  For fear that perhaps it might slip.

For he likes to be useful, although he is slow
  And these good little brothers, they say
Have never once quarreled, and always they go
  Together to work or to play.

Though sometimes one brother (of course by mistake)
  Cuts his twin with your little jack-knife,
Or pounds him instead of a nail, yet they make
  Such mishaps no occasion for strife.

And now can you guess who these merry mates are?
  Just think a bit ere you begin;
First, who is the brother that travels so far?
  And who is his kind, helpful twin?

But if you can't guess them, why then I must tell,
  Look down in your lap; don't you see
Two nice, handy brothers, as sturdy and well,
  And like as two brothers can be?

—Persis Gardiner in *The Youth's Companion.*

SISTER BETTY'S LITTLE STORY.

This is the tale that Betty told
To the baby brother, as good as gold,
As he cuddled down with a listening air
In her lap as she sat in the rocking chair.

There once was a boy who came through the gate,
And he saw by the sun he would surely be late
If away to the schoolhouse he didn't run;
So he went like a shot—and that makes 1.

Past the old mill-pond, past the old mill,
Past the old churchyard, a-running still;
When out of the churchyard a little dog flew
And kept at his heels—and that makes 2.

Down to the turnpike, and on to the spring,
You might almost have thought they were birds on the wing.
And a girl with a book-bag, under a tree,
She also joined in—and that makes 3.

The three like a whirl of the gustiest wind,
Left the mill and the spring and the tree far behind;
Then they startled a cow down back of the store;
She joined the procession—and that makes 4.

The girl and the boy and the old moo-cow
And the little dog barking a bow-wow-wow,
They all were attacked at a hornet's hive
By a furious hornet—and that makes 5.

Over the field by the shortest way,
Where the mowers had finished a-harvesting hay,
And, sure as you live! at the big hayricks
They scared up a rabbit—and that makes 6.

High in the light clouds sounded a song,
But it stilled right there as they rushed along,
And down from the beautiful, beautiful heaven
Flew a curious flicker—and that makes 7.

The seven they passed like a lightning-flash,
And making the noise of a thunder-crash;
The boy and the girl they were sure they were late,
When a lamb came bleating—and that makes 8.

With a clippety-clop, with a buzz and a moo,
With the bark of the dog and a bird-note, too,
On through the glen where the white sands shine
Rose a butterfly flapping—and that makes 9.

Now, hurrah for the fun! They were going so fast
That the little red school-house they almost passed,
When forth stepped the teacher, as trig as a wren,
And called: "Aren't you early?" and that makes 10.

"Ten!" echoed baby, his little blue eyes
Filled with a far-away faint surprise;
Then decision crept into the face of the tot:
"*Ten,* Betty Martin? It makes ten *what?*"
—Louise R. Baker in *St. Nicholas Magazine.*

GOOD-NIGHT IN THE NURSERY.

Now all the little toys are going to sleep,
The dolls and Noah's Ark and old tin sheep,
The music box, the marbles, and the kite,
The curtains have been drawn, and it is night.
They do not wish to play; they talk no more:
Put them away and close the cupboard door.
Katharine Pyle in *St. Nicholas.*

LITTLE MOLLY'S DREAM; OR, AN IDEAL PARK.

"I dreamed," said little Molly,
  With face alight
And voice awe-filled yet joyous,
  "I dreamed last night

"That I went 'way off somewhere
And there I found
Green grass and trees and flowers,
All growing round.

"And all the signs, wherever
We had to pass,
Said: 'Please' (yes, really truly)
'Keep *on* the grass'!

"And in the beds of flowers
Along the walks,
Among the pinks or pansies
Or lily stalks,

"Were signs: 'Pick all the flowers
You wish to,' child;
And I dreamed that the policeman
Looked down and smiled!"
—Emilie Poulsson in *St. Nicholas Magazine.*

A CHEAP TOUR AROUND THE WORLD.

'Most every evening after tea,
I travel far as far can be;
I grasp the wheel with both my hands
And soon I'm off for foreign lands.

I see all countries that I can:
Alaska, China, and Japan,
Then round by Italy and Spain,
And very soon I'm home again.

Then up about the Polar Sea,
Where bears and walrus stare at me.
At other times I take my way
To distant Burma and Malay.

In every land, down to the sea,
The people rush to look at me.
"Good luck to you," I hear them say;
I wave my hand and speed away.

Our dining-room is everywhere;
My ship is just a rocking-chair;
I cruise about the world, at sea,
'Most every evening after tea.
—Thomas Tapper in *St. Nicholas.*

OUR BABY by George MacDonald.
MY SHADOW.
"IN WINTER I GET UP," Etc.
BLOCK CITY.

The above by Robert Louis Stevenson, are in "A Child's Garden of Verse," published by Charles Scribner's Sons.

For other story poems, see the Cyr Series of Readers, Ginn & Co., for beginners in reading, containing poems dear to the human heart and ear. The Heath Series of Readers are helpful and inspiring to the teacher. The Heart of Oak Books (D. C. Heath) have fine contents. If the old favorites, "Mary Had a Little Lamb," "Rock-a-bye Baby," "Twinkle, Twinkle, Little Star," and a host of others, are too well-known to the children to give them fresh pleasure, the monthly *St. Nicholas Magazine,* the weekly *Youth's Companion* are rich in new ways of saying the dear old truths, books of verse such as Miss Agnes Repplier's "A Book of Famous Verse," contain poems "wholly delightful for a child to listen to." Mary Howitt's poems, especially "The Fairies of Caldon Low" (which, I think, is hers) will please children, and I doubt not that the beautiful rhythm of Sidney Lanier would come with a sense of satisfaction to their ear. Lucy Larcom, the Cary Sisters, Margaret Langster, Helen Gray Cone, Helen Hunt Jackson, Mary Mapes Dodge, Eugene Field, Cecilia Thaxter, besides those mentioned before and innumerable others have poured out their beautiful music for the children, so that there is no dearth of literature for these very little ones but the rather. an embarrassment of riches. The Natural Readers, authors Merrill & Kenyon-Walzer, publishers D. Appleton & Co., are excellent Readers, too, often contain the gems for which we are seeking. "Stepping Stones to Literature," published by Silver, Burdett & Co. contain good material for our purpose. Some of the psalms will appeal to the children and remain with them, especially the twenty-third. The Lights to Literature, a series of six readers from the press of Rand McNally contain very excellent material.

For prose stories, see "Classic Stories for the Little Ones" by Mrs. Lida Brown McMurry. This includes adaptations from Grimm, Andersen, Æsop, and others. Eugene Field's "A Little Book of Profitable Tales" has one or two stories that even these very little ones might enjoy, viz., "The Mouse and the Moonbeam," "The Oak Tree and the Ivy," etc. Joel Chandler Harris's "Uncle Remus" makes pleasant reading, too. The Twilight Stories issued by Parker P. Simmons have pretty and instructive stories. The Jones Readers, a series of 4 books, just published by Ginn & Co., have an exceptionally valuable ethical purpose. The selections are admirably made.

While it is not necessary to pursue any regular system in these readings to the children, it is well to have a certain number of each kind mentioned in the syllabus (nursery rhymes, stories of child life, anecdotes of animals, folk stories, selections from such books as Poulsson's "In the Child's World" definitely marked down and at hand, at the beginning of the term and checked off as they are read.

For Nursery Rhymes, see A Book of Nursery Rhymes, Parts I and II, by Charles Welsh; published by D. C. Heath & Co.; also The Blaisdell Child Life Primer published by The Macmillan Company. Indeed, this entire series up through the Fifth Reader will yield valuable results to teachers and pupils.

For Anecdotes of Animals, see Ernest Seton-Thompson, John Burroughs, and others. Here are a few selected from various sources:

A SPARROW'S NEST IN A LION'S MOUTH.

Not all of the delights of spring are for the country boy. We who live in the city have a host of them, and can see many a strange and pleasing sight if we keep our eyes open. A few days ago, while riding my bicycle down Madison Avenue, I heard the twittering of sparrows, and, looking up, saw in the mouth of the stone lion on the corner of the building of one of the city's prominent clubs, the remains of a last year's nest, and two sparrows getting ready to build a new one for the year. It was such a novel place for a bird to choose for housekeeping that I stopped and made a sketch of it. While standing on the opposite corner sketching, the policeman of that "beat" came over to talk with me. He seemed pleased that I should have noticed the birds. He said that the sparrows had been keeping house there for several years. He had often stopped to watch them build their nests, and later, feed their little ones. These birds would play around the lion's head, sitting on his nose or eyebrows as saucily as could be, as much as to say: "You may *look* very fierce, but—*who's afraid?*" George W. Picknell in *St. Nicholas.*

THE DOG AND THE SHILLING.

1. A gentleman, who had a splendid Newfoundland dog, was riding with a friend one day, when the dog became the subject of conversation.

2. The owner praised the qualities of his favorite very highly, and declared that Nero would, upon receiving the order, return and bring any article he should leave behind, from any distance.

3. To prove this, a marked shilling was first shown to the dog, and then put under a large square stone by the side of the road.

4. The gentlemen then rode on for three miles, when the dog was ordered to return for the shilling.

The dog turned back; the gentlemen rode along and reached home.

5. To their great surprise the dog did not return during the day, and the owner was much annoyed at the circumstance.

6. It afterwards appeared that he had gone to the stone under which the shilling was placed, but it proved to be too large for his strength to remove.

7. He, consequently, stayed howling at the spot till two gentlemen on horseback, hearing the noise, stopped to look at him.

8. One of the men, jumping from his horse, turned over the stone; and, seeing the shilling, put it into his pocket, not at the time thinking it to be the object of the dog's search.

9. The dog followed their horses for twenty miles, remained quietly in the room where the gentlemen took supper, followed the maid into their bed-chamber, and hid himself under one of the beds.

10. The man who had the shilling hung his pantaloons upon a nail by the side of his bed. When the travelers were both sound asleep, the dog took the pantaloons in his mouth, and leaped out of a window, which had been left open on account of the heat.

11. He reached the house of his master, with his prize, at four o'clock in the morning. In the pockets of the pantaloons, besides the shilling, a watch and some money were found.

12. These were advertised and returned to the owner, who had been greatly surprised at the loss of his property, and had concluded that some thief must have been in the room during the night.

The Three Gold Fishes.

1. Three of the loveliest little gold fishes in the world once belonged to a kind-hearted man, who placed them in a beautiful clear pond.

2. The man came often to the banks of the pond, and scattered crumbs of bread on the water, and seemed delighted to see the fishes eat and enjoy themselves.

3. But he used frequently to say to them, "Little fishes, little fishes, if you wish to live always as happily as you do now, you must beware of two things.

4. "You must never go through the grating into the big pond beyond, and you must never swim on the top of the water unless I am here to take care of you."

5. The little fishes, however, did not understand what he said.

Then the man thought, "I suppose I must try another way to make them understand what I mean."

6. So he placed himself at the grating, and whenever one of them came up and tried to swim through, he made such a splashing with a stick in the water that they swam away in a great fright.

7. He did the same thing when they came to the top of the water, so that they dived again directly.

At last he thought, "Now I must have made them understand;" and he went home.

8. Then the three little fishes met and shook their heads; but they could not make out why they might not go through the grating, nor swim on the surface of the pond.

9. "He walks about up above, and why must we stay down here?" said one.

"And why," asked the second, "should we be shut in? How can it hurt us just to swim into the large pond?"

10. "He is very unkind," said the other; "and I shall take a little trip into the other pond now at once."

"And I," cried the first, "will go and play on the top of the water."

11. The third little gold fish was wise enough to think—"The good man must have a reason for forbidding us these two pleasures. I am sure he loves us, and likes to have us enjoy ourselves.

12. "If he does not, why does he come so often, and take such delight in bringing us food, and in seeing us eat it? I will do as he wishes, although I can not at all see why he should wish it."

13. So this fish stayed down at the bottom of the pond, while the others did as they said they would.

One swam through the grating into the big pond; the other played about in the sunshine on the top of the water.

14. They both laughed at their little brother for denying himself so much pleasure.

But what happened? The one had not been in the large pond very long before a big pike saw him, rushed at him, and killed him.

15. The other, as he was playing about in the warm sun, was pounced upon and eaten by a bird of prey. Only the obedient little fish was left alive.

Many of the Fables and Folk Stories in the Golden Rod series of 4 books relate to animals. The titles of these books are Rhymes and Fables, Songs and Stories, Fairy Life, Ballads and Tales. They are published by the University Publishing Company. Ward's Second Reader (The Rational Method in Reading) contains "Dick Whittington and His Cat," "The Spider and the Fly," and other stories of animals. Stories of faithful sheep dogs, and of the wise St. Bernard's are to be found in old readers and in magazines. *St. Nicholas* for August, 1904, contains a story of "Central Park Tom"—the big performing elephant; also "Stories of My Pets" and "When the Birds Were Our Guests."

Simple folk stories may be found in the Golden Rod Books before referred to, and in Ward's Second Reader already spoken of. The latter book contains The Three Bears; The Sleeping Beauty; a Japanese Fairy Story, Ama the Sun Fairy, etc.

For many interesting stories of all kinds suitable to read to children, see the article on Language Work by Amy Kahn in the Monographs for October, 1902, (Vol. IV, No. 3), also in the Brumbaugh Standard Readers of Christopher Sower & Co.

Reproduction Stories.

EDITH M. PHEASBY, P. S. No. 55, Brooklyn.

THE reproduction stories may be divided into the following classes:

1. Fables and folk stories.
2. Fairy tales and myths.
3. Interesting anecdotes—*a*. From the lives of our heroes. *b*. Of animals and their doings.

The story told for reproduction by the pupils should be a model both in structure of sentences and in choice of words. All stories should be simple. Stories which appeal strongly to the imagination arouse and hold the interest of the young child. We often find that young children have thoughts which they cannot express because their vocabularies are inadequate for the purpose. It is even more difficult for them to express their thoughts logically and grammatically. Story telling is very helpful in that it greatly increases and improves the vocabulary, tends to stimulate thought, and aids the child to express himself in a logical and grammatical manner. The improved power of expression will be found valuable not only in the lower grades, but also in higher grades when children are called upon to recite from topics in history and geography. Myths and fairy stories used for reproduction stories are especially valuable in furnishing a content on which the pupils in their later reading may call. In the higher grades we find frequent references to these stories without a knowledge of which many passages are unintelligible.

It will be found interesting to have a "chalk-talk" occasionally; that is, a story illustrated on the blackboard. Such a story will make a far deeper impression on a child's mind when the characters can be seen, because more senses are appealed to. (The ear is an overworked organ.) Of course, every one cannot draw well, but one improves only by practice and perseverance. It must not be forgotten that a crude illustration is far better than none at all. The use of stencil pictures is found helpful to the unskilful.

Children love these little talks, and story-telling time will be found both pleasant and profitable.

FABLES.

I. THE DOG AND HIS SHADOW.

A dog with a piece of meat in his mouth came to a river. He stopped and looked in. Down in the water he thought he saw another dog with a bigger piece. He snapped at the other piece of meat, and in so doing he dropped the piece which he had. Then he had no meat.

The other dog and the other piece of meat that he tried to get were only shadows.

II. THE FOX AND THE GRAPES.

One day a hungry fox went out to find something to eat. He spied some grapes at the top of a high grape vine. He tried to reach them but could not do so. He tried several times, but still he could not get them. At last he said, "Those grapes are sour, I would not eat them anyway." Then he went away very much disappointed.

III. The Boys and the Frogs.

Some boys went down to a brook to play. There in the water they saw some frogs. They thought it would be fine fun to throw stones at the frogs. As fast as the frogs came out of the water the boys would stone them.

At last one of the frogs said, "Boys, this may be fun for you, but do not forget that your fun is killing us."

IV. The Lion and the Mouse.

One day a little mouse went out to find something to eat. All at once he came upon a lion fast asleep. The little mouse did not see the lion and ran across his nose. The lion was very angry and put out his paw to catch the little mouse. The poor, frightened mouse looked up and said, "Oh, Mr. Lion, if you will only let me go I will do something for you some day." The lion laughed at the idea of a little mouse being able to help him, but he let the mouse go.

Another day the mouse heard the lion roaring and ran to see what was the matter. He saw that the lion had been caught in a net and could not get away. So the mouse gnawed and gnawed until he had cut enough ropes to let the lion out. Then the lion was very glad that he had not eaten the little mouse.

V. The Dove and the Bee.

A thirsty little bee went to the brook to get a drink. He fell into the water. A dove in a tree near by saw him fall. The thoughtful little dove dropped down some leaves into the brook. They fell just where the bee could reach them and so he was saved. The dove had saved the little bee's life. One day soon after this the bee saw a bad boy going to shoot the dove. So he flew down and stung the boy. Then the boy could not shoot, and the dove flew away. The dove was saved by the bee.

FOLK STORIES.

The Queen Bee.*

There were two young men who went out to earn their living. They managed to get enough to eat, but that was all. A short time afterward, their younger brother whom they called Dumb-head, thought he would like to join them. When they saw him they laughed at the idea of his thinking he could make his way in the world when they could not do so. However, they let him go with them and all traveled together. As they walked along they came to an ant hill. The two elder brothers wanted to dig it up just to see the poor little ants run. But Dumb-head felt sorry for them and said, "Let us leave the ants in peace." So they left the ants and walked along until they came to a lake where some ducks were swimming. The elder brothers wanted to kill some of them to eat, but Dumb-head said, "Let us leave them in peace."

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* It may be better to use this story for reading to the children, if it is too long for a reproduction story.

As they walked they saw a bee nest in a tree. It was full of honey. "Oh, let us build a fire under the tree and drive the bees away. Then we can have the honey," said the elder brothers, but Dumb-head persuaded them to let the bees stay. Next they came to a castle where they found an old man sitting all alone. He was very kind to them, giving them plenty to eat and a place to sleep. The next morning he told the three brothers he had work for them to do. Under a tree in the garden among some moss there were a thousand pearls. The person who went to look for them must return without one missing, else he would be punished by being turned into stone.

The eldest brother said he would look first because he was sure he could find them. When night came, however, he had only a hundred pearls. Sadly he returned to the castle. He was punished as the old man had said. The next day the second brother went, but he could do no better, and he too was turned into stone. The third day Dumb-head set out with a heavy heart. He worked well, but without much success. Just when he was feeling sad the little ants whom he had saved came to his help. They soon found the pearls, and Dumb-head returned to the castle very much delighted. The old man then told him he must find the keys of the castle. They were at the bottom of the lake. Of course poor Dumb-head did not know what to do. But when he came to the lake there were his friends, the ducks waiting to help him. The ducks dived down into the lake and quickly returned with the keys.

The third task was the hardest of all. Dumb-head was shown three princesses. He had to find out which one was the youngest and loveliest. They all looked exactly alike. The only difference was that they had eaten different things. The eldest had eaten some sugar, the second some syrup and the youngest some honey. Poor Dumb-head was at a loss to decide, when all at once a bee flew in through the window. It was the queen bee whom he had saved. Instantly it flew toward one of the princesses and alighted on her lips. Dumb-head then knew which princess to choose. The old man was so pleased with all Dumb-head's work that he gave the boy his castle as a reward. The brothers, who had been turned into stone, were again given their proper forms and all were very happy.

THE CAT AND THE MOUSE IN PARTNERSHIP.

A cat and a mouse once lived very happily together. They could always find plenty to eat in the summer, but usually had a hard time in the winter. They thought it would be a good plan to put some food away for the winter. Pussy was to find the food and the mouse was to think of some place to put it.

The cat set out and soon returned with a dish of fat. "Well, Mrs. Mouse," said Pussy, "where shall we put this fat?" "I think we had better put it in the church. No one will steal it then," said Mrs. Mouse. So the dish was placed in the cellar of the church. A few days after this Pussy thought he would like to taste the fat. He told Mrs. Mouse he was invited to a christening and he must go. When he returned Mrs. Mouse asked him what the kitten had been named, and he answered "Top-off." Mrs. Mouse said she had never heard of such a name. About a week later Pussy said he was invited to another christening. When he came home he said the new baby had been named "Half-gone." Mrs. Mouse thought it was the funniest name she had ever heard. Some time after this the cat went to another christening. In response to Mrs. Mouse's inquiry he said this baby was named "All-gone." "Dear me," said Mrs. Mouse, "what queer names your family have." After awhile winter came and they had nothing to eat. Then the mouse thought of the dish of fat in the church. Together she and the cat went and found the dish empty. Then the mouse understood all about "Top-off," "Half-gone" and "All-gone." She started to scold Pussy for eating the fat, when suddenly the cat pounced upon the poor little mouse and ate her.

THE ORIGIN OF BIRDS (INDIAN LEGEND).

Long ago when God made the earth he touched it here and there and a tree grew up. Then the earth looked prettier than before. But when the summer passed and autumn came and the leaves changed their colors, the wind blew them from the trees.

God loved the leaves so much that He did not want them to die, so he changed them into birds. The red-brown oak leaf turned into a robin. The yellow willow leaves He made into canaries and the brown leaves became larks and sparrows.

ANECDOTES.

STORIES OF WASHINGTON'S BOYHOOD—THE HATCHET.

One morning George was playing in his father's orchard amusing himself with a hatchet. After chopping down some dead bushes he thoughtlessly chopped one or more of his father's valuable cherry trees.

Later in the day his father was walking in the orchard. Suddenly he discovered the hacked cherry tree. He angrily demanded who had been hurting his trees. George, hearing what his father had just said, ran up to him and exclaimed, "Father, I cannot tell a lie, I was the one who spoiled your trees."

It is easy to believe that a boy who could not be deceitful would grow up to be a great and good man.

GEORGE'S KINDNESS TO HIS MOTHER.

When George Washington was a little boy he lived on a big farm in Mount Vernon. At one end of the farm there was a wide river. Every summer a ship came sailing up the river from England. Sometimes it brought hats and coats for George or clothes for his brothers. Other times it brought horses or wagons or tools to be used on the farm.

Ever since he could remember, George had seen this ship come and go. He often thought how nice it would be to be a sailor and sail across the seas in such a large ship. George thought and thought about it, and at last the captain of one of the ships said he would like to take George with him. Soon the day came when he would sail away. All his friends came to say good-bye. George stood at the door. He was really very sorry to leave home. As he turned around he saw tears in his mother's eyes, for she did not want him to go and leave her. He did not like to see her so unhappy, so he said he would stay at home and take care of her. George's mother was very glad and she told him he was a good boy to be so kind to her.

GEORGE AND THE COLT.

One day little George was playing in the field with some other boys. In the same field was a young horse which belonged to George's mother. It was a very frisky animal and no one had yet been able to ride or drive it. The boys started to talk about the horse, and George said he thought he could ride it. The boys managed to catch the horse and helped little George to put a bridle on him. Then George sprang upon his back. The horse plunged and kicked, but George held on tight. At last it gave a great plunge and fell to the ground dead. The boys were all very much frightened for they thought George's mother would be very angry.

When the boys returned to the house Mrs. Washington asked them where they had been playing. Then she asked about the horses and especially how her favorite was getting along. George then said, "Your horse is dead, mother. I killed it." Then he told her all about it. She listened quietly and then said, "I am very sorry about the horse, but I am glad my son told the truth about it."

WASHINGTON AS A SOLDIER.

When Washington grew up to be a young man he was chosen to teach soldiers how to march and how to use their guns. He himself used to practice marching and shooting a great deal. So he learned to be a great soldier, too.

After a while there was a war. George Washington was chosen to lead our soldiers. The war lasted a great many years, but at last our soldiers were successful. When the war was over Washington went back to live in Mount Vernon. He lived there until he was made the President of our country.

ANIMAL STORIES.

The Dog and the Ducks.

There was once a watch-dog named Rover. At night he used to run around the yard to keep thieves from breaking into his master's house. In the day time he was chained to his kennel. There was a family of ducks who lived in the same yard with Rover. The dog and the ducks were very friendly. Whenever Rover saw any one coming whom he thought would hurt the ducks, he barked. Then the little ducks would run and hide in the dog house. Rover stood in front of the door and the ducks felt quite safe.

Jack, the Monkey.

Did you ever hear of a monkey that went to war? Jack was a monkey who belonged to a company of English soldiers. They were very fond of him, but he sometimes gave them a great deal of trouble. He used to tear their papers and break things. When the winter weather came poor Jack shivered with the cold. The soldiers said, "Jack must have a coat like us." So the tailor who made the soldiers' coats made one for Jack, too. But Jack tore it off. At last the tailor sewed it on up and down the back, and Jack could not reach the stitches to tear them out. Jack went with the soldiers to the war and carried a flag. He always marched in front of the regiment.

The Soldier and the Cat.

A soldier in the French army had a cat of which he was very fond. She would sit on his shoulder when he marched in his company. They were together in a great battle. The soldier had one of his legs shot off. Not long after pussy had a leg shot away, too. Together they went to the hospital and stayed there until they were well. Some time after this the soldier had a wooden leg made so that he would be able to walk. Then he thought pussy would like a wooden leg, too. So he had one made for her. Then the soldier and his cat took walks together again just as they used to do.

MYTHS.

Long, long ago the people believed that there were a great many gods and goddesses who took care of the earth. They thought all the gods and goddesses lived up on the top of a mountain far above the clouds.

Ceres.

One goddess was named Ceres. She took care of the flowers, and the fruits and grains. She watched them tenderly until each little bud became a flower and each tree bore its fruit. All the people loved Ceres because she gave them nearly all their food.

The Story of Clytie.

Once there was a dear little fairy whose name was Clytie. She was different from most fairies because she lived at the bottom of the sea. Sometimes these little fairies of the sea are called sea-nymphs.

Clytie's home was very beautiful. The floor was made of pure white sand with lovely little shells scattered here and there. She used little stones covered with moss for chairs and a large stone for her table. She had plants in her house, too. These were the sea flowers and sea weeds. This little sea-nymph had a horse and carriage for her very own. What do you think they were like? Her carriage was a big pearl shell and her horses were gold fish. One day Clytie went out riding and fell asleep. By and by the shell came to the top of the water. A big wave caught it and carried it ashore. When Clytie awoke she climbed out of her carriage to look around. She had never seen the land before. How beautiful the flowers and birds looked! How bright the sun shone! Clytie sat down and watched the sun until he went to rest. The next morning she came again. Day after day she came. She grew to love the sun very much and wished she might grow like him. One evening when the sun had set Clytie thought she would go home. When she tried to go she found she could not move. Her little feet were rooted in the ground and her pretty dress had changed to a stem with leaves upon it. Her golden hair had become golden petals. Dear little Clytie had changed into a sunflower. She had grown to look like the sun just as she wished to do.

Other Stories for Use in this Grade.

a. Old Mother Hubbard.
Dame Trot and Her Cat.
The Old Woman and Her Pig.
The Three Bears.
Jack and the Beanstalk.

b. Landing of the Pilgrims.
The First Thanksgiving.
Abraham Lincoln as a Boy.
The Sinking of the Merrimac (Santiago).

c. The Sun and the Wind (Æsop).
The Man and His Shadow.
Goody Two Shoes.
The Poor Shoemaker.
The Boy and the Wolf (Æsop).

d. The Golden Touch (Wonder Book).
The Miraculous Pitcher (Wonder Book).
Pandora and the Wonderful Box.

THE SQUIRREL.

Introduction: I am going to tell you something of a queer little person whom I shall call Whinkey. His back has the most beautiful smooth shining stripes of reddish brown and black, his eyes are like bright beads, and he sits up jauntily on his hind quarters with his little tail thrown over his back like a ruffle. This little squirrel used to live in a small hole in the grass plot. A kind lady used to fill her pockets with hazelnuts and go out and sit near the squirrel's hole and make a little noise, such as squirrels make to each other, to attract his attention. In a minute or two up would pop the little head with the bright eyes in the grass plot, and Master Whinkey would sit on his haunches and listen with one small ear cocked toward her. Then she would throw him a hazelnut and he would slip instantly down into his hole again. In a minute or two the little brown striped head would slowly come up again over the grass plot. Quick as a flash he would dart at the nut, whisk it into a little bag on one side of his jaws and down he would go into the hole again.

He would not stay near the lady at first, but she coaxed and coaxed him, and at last Whinkey said to himself, "Surely this is a kind lady to take so much pains to give me nuts," and with that he edged a little nearer and nearer every day, until he would come and climb into her lap and take the nuts when she rattled them there. He would climb up and sit on her shoulder, he would mount and perch himself on her head, and when she held a nut for him between her teeth would take it out of her mouth. As winter comes on Whinkey will go down into his hole, which has many galleries and winding passages, and a snug little bedroom well lined with leaves. Here he will doze and dream away the long winter months and nibble out the inside of his store of nuts.

DOG.

Prince was a Newfoundland dog, grave, sedate. He considered himself put in trust of the farm, the house, the cattle and all that was on the place. At night he slept before the kitchen door. If a tramp or other improper person had even touched the latch of the door Prince would have been up attending to him.

At early dawn Prince was up and out to superintend the milking of the cows, after which he gathered them all together and started out with them to the pasture, walking steadily along behind. Arrived at the pasture lot, Prince would take down the bars with his teeth, drive in the cows, put up the bars and then soberly go home. He would carry the dinner basket for the men to the mowing lot or the potato field. He was useful to send on errands after anything forgotten or missing. "Prince! the rake is missing, go to the barn and fetch it!" and away

Prince would go and come back with his head very high, and the long rake balanced in his mouth.

WHAT MUNGO DID (DOG).

Once on a time a miller had a large shaggy dog called "Mungo." At night he slept at the mill and took care that no thieves came about. He was very fond of children, and when baby pulled his hair with both her hands, he looked pleased and would not let anybody know how much she hurt him. In the morning Mungo would place himself on guard at the upper doorway, while the miller went to look after his work in the lower part of the mill. As soon as the miller came up Mungo, without being told, would start for the house to get his master's breakfast. He brought it in a can that workingmen carry their lunch in. One morning there was a flood in the river, and a little dog living near by fell into the stream and was carried down yelping with all his might. Mungo was coming with his master's breakfast, as usual, when he heard the cry of the little dog. He set the can down by the side of the path and dashed off down stream as hard as he could run. When he had got well below the little dog he sprang into the river and swam out into the middle of the stream just in time to catch the helpless dog as he was being swept down the stream. Mungo seized him by the neck in such a way as to keep his head above the water, swam with him safely to the shore and dragged him high and dry out of the water. After shaking himself he cuffed the little dog first with one paw and then with the other, as much as to say, "Now, you little dunce keep away from the river." He then went back to where he had left the can and carried it to his master, as usual.

DANDELION.

This little dandelion is as yellow as gold.

"What do you do all the day little dandelion?" asked the children.

"I wait till the children come to play. I love to watch them. I wait so long my hair turns white. Then I am not a yellow dandelion any longer."

"What do you do then?" they asked.

"Why, I let the children take me in their hands and blow me away."

Reproduction Stories.

By Minnie Igelheimer.

Note.—These stories may be told in detail, and, enlarged upon in such a way as to make them as interesting as possible for the children. However, questions may be asked in a way to get from the children the following sentences. At first the main desire is to have pupils make complete statements, using good language; also, to tell a story without the repeated use of *and*.

Later in the term when these difficulties have been mastered, children may relate stories giving all the incidents they can remember. (Group II.)

GROUP I.

The Fox and the Grapes.

A HUNGRY fox saw some grapes. They were high up on a vine. He tried to reach them but could not. So he walked away, saying, "I would not eat those grapes even if I could reach them. They are sour grapes."

The Crow and the Pitcher.

A thirsty crow found a pitcher of water. But the water was very low. The crow could not reach it. Looking about she spied some pebbles. She dropped them into the pitcher, one by one. Soon the water began to rise. Then the thirsty crow got her drink.

King Midas.

King Midas had heaps of gold but he wanted more. One day the Golden Touch was given to him. Then King Midas was happy. Everything he touched turned to gold.

The king had a daughter named Marygold. She had blue eyes and rosy cheeks. But her father touched her and she became a golden statue. After this the king was glad to get rid of the Golden Touch.

The Story of a Flower.

Some little brown flowers grew by the wayside. They were not at all beautiful. But they tried to be contented. A good fairy noticed their behavior. She felt sorry for their ugliness. One morning she placed them on a cushion. Then she turned them into one tall flower. And she gave this flower a golden crown. The flower is very happy now. It looks at the sun all day long. Can you guess its name?

The Lion and the Mouse.

A lion lay asleep near his den. A little wood-mouse crept under his paw. This woke the lion up. The mouse begged for his life. So the lion let him go. Soon after, some hunters caught the lion. They tied him with ropes to a tree. The mouse heard him roaring and ran to save him. He nibbled the ropes with his sharp teeth. In this way he set the lion free. And the lion was glad he had spared that mouse.

THE FOOLISH GOATS.

One day a goat started out for a walk. He came to a very narrow bridge. At the middle of the bridge he met another goat. Then the trouble began.

There was not room for both to pass at the same time. Neither one would give way to the other. So they butted and butted each other. And both fell into the water and were drowned.

THE FOX AND THE CROW.

A crow stole a piece of cheese. He flew to the top of a tree with it. A fox came along and wanted the cheese. So he said: "What a lovely crow you are. And what a beautiful color you have. I should like to hear you sing." The crow was delighted. He opened his bill and sang "caw, caw." Down fell the cheese to the ground. The fox ate it all up. Then the crow saw what a stupid bird he had been.

JACK AND THE BEAN STALK.

I.

Jack lived with his mother. She was a poor widow. A giant had killed her husband and stolen her gold.

One day the widow told Jack to sell her cow. The foolish boy sold her for a few beans. His angry mother threw the beans out of the window.

Next morning Jack found a beanstalk growing outside the window. It seemed to reach to the sky.

II.

One day Jack climbed the beanstalk. He went up and up. At last he reached the giant's castle.

Jack carried away his mother's gold. The giant ran after him.

Jack hurried home. He cut down the beanstalk. The giant tumbled down and was killed.

A LITTLE DROP OF WATER.

(*The Story without an End.*)

Part I.

A little drop of water lived in the ocean. It had hundreds of brothers and sisters there. They all took hold of hands and played with each other. And the wind played with them. It often made them into big waves.

Part II.

One day the sun sent down his sunbeams. The little drops jumped up on the sunbeams' backs. Then they rode 'way up into the sky.

Part III.

But soon the sun grew tired of them. So they all took hold of hands again. They made themselves into clouds. Soon the clouds grew heavy. The air could not hold them up. So the little clouds let go of hands. And down they fell in little drops of rain.

Note.—This story may end here, or it may be continued in this way:

Part IV.

Some fell into mountain holes. Sometimes it was very dark inside. So they ran along until they found light. The light was outside the mountain. On they ran to meet each other. They took hold of hands again. This time they made themselves into a brook. The brook ran down the sides of the mountain. Soon it came to a meadow full of flowers. It watered the roots. This helped the flowers to grow. After awhile the brook grew lonesome. It wanted its brothers and sisters. So it ran on and on. Soon it came to the river. Still it flowed on. At last it came to the ocean. Then the little drops were happy again.

The Goose That Laid the Golden Eggs.

A man had a goose that laid a golden egg each day. But the man was not satisfied with this. He wanted all the eggs at once. So he killed the poor goose. Then what do you suppose he found? She was exactly like other geese. After that the man had no golden eggs at all.

The Dog and His Image.

A dog was crossing a river. He had a piece of meat in his mouth. Looking down he saw his image in the water. But he thought it was another dog with a bigger piece of meat. So he dropped his own into the water. Then he jumped in after the other piece. In this way he lost both pieces.

GROUP II.

The Bell of Atri.

The King of Atri built a tall tower and hung a big bell in it. A long rope hung from the bell to the ground. "If any one does you a wrong, ring this bell," said the King, "then I shall know that some one needs help."

Many people rang the bell—rich people and poor people, big people and little people. At last the rope wore out, and as there was not a rope in town, they put a long grape-vine on the bell.

Not far from the town lived a poor old horse. He had worked for his master many years. But now he was too old to work any more. So his master would not feed him. He put him out.

The poor horse wandered about until he saw the grape-vine. He was hungry and tried to eat it. This made the bell ring, and the King came to see who needed help. When he saw the poor horse he sent for his master.

"This poor horse has worked for you many years," said the King. "He is old now and cannot work. You must be good to him and feed him the rest of his life." So the man built a barn for him and after that the horse did not suffer any more.

A KIND BOY.

A ragged little boy sat on a doorstep eating a slice of bread. He must have been very hungry, for he took great bites. He had only started his meal when a little dog came along. The dog sat down beside the boy and whined softly.

"What do you want?" asked the boy. The dog looked up at the bread and whined louder.

"This isn't a bone, go away," said the boy. But he didn't speak in a cross way, so the dog stayed. He put his head on the boy's knee and kept on whining.

"Do you want this worse than I do?" said the boy, holding out the bread. At this the dog gave a quick bark, so the boy threw him the rest of the bread.

ROVER AND THE BAGS OF GOLD.

Rover was a spaniel with long, silken ears. He went everywhere with his master, and used to run on errands as well as a boy.

One day Rover and his master set out on a journey through the woods. His master rode on a horse and across the saddle he placed two heavy bags of gold. After awhile the man grew tired so he tied the horse to a tree, and placed the gold on the ground. "Watch these bags, Rover," said he, "I want to sleep awhile." Rover laid his nose on one of the bags, and pricked up his ears to hear every sound. When he thought his master had slept long enough, he licked his face and woke him up.

The man got on his horse and rode swiftly away. But Rover acted strangely. He barked, snapped at the horse, and even tried to bite his master's shoe. Thinking that the dog had gone mad, the man shot him. The poor animal fell, but rose again and ran back up the road. After awhile the man felt for his bags of gold. They were not there. He galloped back quickly, looking all along the road until at last he came to the place where he had slept. And there he saw Rover, almost dead, with his nose resting on a bag of gold. The faithful dog had obeyed orders at the risk of his life. After that Rover was tenderly cared for, and lived to a good old age.

THE BOY WHO CRIED WOLF.

A little boy took care of some sheep. Not far away some men were at work in the fields. They told the boy to cry for help if a wolf came after the sheep. The boy thought he would have some fun so he called, "Help, help, the wolf is here." The men left their work and came running as fast as they could. But the boy laughed and said that he had called for fun. Not long after he called again. This time the men were angry. At last the wolf did come. The boy cried louder than ever but nobody came to help him. So the wolf killed all the sheep.

THE MOUSE TOWER ON THE RHINE.

A long time ago there was a famine in a city in Europe. The poor people had nothing to eat, and little children were crying for bread. Many of them died of starvation.

One rich man could have helped them for he had hundreds of bags full of flour. But he charged so much for a bag that the poor people could not afford to buy any. So he locked the flour up in his castle, which was on the Rhine River.

Now there were hundreds of rats and mice in this city, and they were starving, too. They got into the castle and started to nibble at the bags. When the man tried to chase them away they ran after him and bit him. He had to get in a boat and row over the river to a tower on the other side. But the mice could swim so they followed him. They nibbled at his door until they made a hole in it. Then they all rushed in and killed the cruel man. Since that time this tower has always been called "The Mouse Tower on the Rhine."

PROVERBS AND MAXIMS.

1. Haste makes waste.
2. Half a loaf is better than no bread.
3. A kind word often does more good than a large gift.
4. The inner side of every cloud
   Is bright and shining;
   I therefore turn my clouds about,
   And always wear them inside out—
   To show the lining.
5. East or west, home is best.
6. Enough is as good as a feast.
7. Birds of a feather will flock together.
8. Early to bed and early to rise,
   Makes a man healthy, wealthy and wise.

9. The surest way to be happy is to be busy.

10. It is not where you are, but what you are that determines your happiness.

11. Better live well than long.

12. A rolling stone gathers no moss.

13. Deeds are greater than words.

14. A good beginning makes a good ending.

15. Well begun is half done.

16. When the cat is away, the mice will play.

17. Never judge a book by its cover.

18. When good cheer is lacking,
Our friends will be packing.

19. Hasty climbers have sudden falls.

20. Count not your chickens before they are hatched.

21. Little drops of water,
  Little grains of sand,
Make the mighty ocean,
  And the pleasant land.

22. Little deeds of kindness,
  Little words of love,
Make this earth an Eden,
  Like the heaven above.

23. A bird in the hand is worth two in the bush.

24. Wisdom is better than riches.

25. Be not suspicious toward others.

26. The greatest luxury is that of doing good.

27. Beauty is but skin deep.

28. Every little helps.

29. Follow the river and you will get to the sea.

30. For want of a nail the shoe is lost; for want of a shoe the horse is lost; for want of a horse the rider is lost.

31. All work and no play, makes Jack a dull boy.

32. Tell no tales out of school.

33. It is the early bird that catches the worm.

34. They who make the best use of their time have none to spare.

35. Those who play with edge tools must expect to be cut.

36. It is never too late to mend.

37. Little and often fills the purse.

38. Many hands make light work.

39. Second thoughts are best.

40. Where there's a will, there's a way.

Reproduction Stories.

By Bertha Samenfeld.

ORAL reproduction stories should include nature stories, folk stories and fairy tales. It is far better to tell stories to the children than to read them. Pictures shown to the children or blackboard drawings to look at, while the teacher tells the story, adds greatly to the child's interest and helps to impress the story more clearly.

How the Pony Got Shod.

Billy was a fine pony, brought from Shetland for a little boy to ride to and from school, as the distance was too great to walk. When Billy first came he was barefoot, and when he began his daily journeys he was shod for the first time.

The blacksmith who put on the shoes lived quite a long distance from Billy's home, and the pony had never been over the road, but on the day he went to be shod. A few weeks after the blacksmith saw Billy without halter or bridle coming up the road to the shop. Thinking the pony had strayed away, the blacksmith turned him round and threw stones at him to make him go back toward home. The pony trotted off, but the blacksmith had only fairly got to work again when he heard a noise, and looking up saw Billy at the door. This time before driving him away the blacksmith took a look at his feet and found that Billy had lost a shoe. He at once made a new one and put it on and then waited to see what Billy would do. The pony looked at the blacksmith for a moment, as if asking whether he was through, then he pawed to see if the shoe was all right, gave a neigh for "Thank you, sir," and set out for home on a brisk trot. His master knew nothing about the matter until the next day.

The Donkey.

This man did not allow his donkey to be pounded and fed him on something better to eat than thistles. The donkey served his master faithfully because of this. He could open the gates and climb the fences, and many a morning he woke the men by his braying. Once a man set his bulldog to attack the donkey as the animal was grazing near the river. For a while the donkey kept his heels toward the dog in such a way that the latter could not get at him. Watching his chance the donkey turned and seized the dog by the nape of his neck, so that he could not use his jaws, then dragged him to the river, plunged him in and lay down upon him, keeping his head under water until he was nearly drowned. After that the dog did not annoy him again.

The Horse (Heavy Load). .

A large heavy cart full of wood had to be pushed backward into a place where a house was being built. But the load was too heavy for the two horses to push back, though they tried with all their might. The driver became very angry and used hard words as well as hard blows. The cuts from his cruel whip fell faster and faster upon the backs of the poor horses. But they only reared and kicked without being able to move the great cart any further. They were too tired. At last a happy thought came into the head of the driver. He got down from his seat and went up first to one horse and then to the other. He stroked their necks and patted them kindly. Next he went to his own dinner bag and took out a nice red apple. This he cut in two and gave half to each horse. He waited till they had eaten it and then mounted the cart again. One horse put his head over to the other as if to say, "Let us try again and see if we can do it." And when the driver shook the reins without slashing the whip they both gave one hearty push and sent the wagon back into the proper place where the wood had to be put.

TRACKS IN THE SNOW (SQUIRREL).

"Ned! Ned! Wake up! There's been a jolly snowstorm! The old woman up in the sky must have picked all her geese this time for the snow is nearly up to the top of the gate-post," chattered Ted through his teeth as he hurried into his clothes. "Come on, I say," he exclaimed as he gave Ned a shake. "Let's be the first ones out."

But in spite of all his hurry some one had been out before Ted, some one who did not have to dress, but who walked silently over the cold, soft snow without shoes or stockings. "Tracks!" said Ted as soon as he spied the footprints. "Who's been here, I wonder! Wouldn't it be exciting if it were a bear?"

"Hallo there! What are you dreaming about, you idler? I thought you were going to shovel a path," shouted Ned, who, at last thoroughly awake, came bounding down the stairs two steps at a time to join in the fun. "Hi! squirrel tracks," he said as soon as he spied them. "Some of those spry little red fellows have been out on a foraging expedition. They're smart chaps, I tell you. I don't see how they remember where their stores are hidden, but they always seem to know just where to go for the pinecones and nuts they buried in the fall. It's about all I can do to keep track of my cap and mittens, and they are always somewhere in sight," he said as he shoveled the snow and tossed it over his shoulders.

"They are plucky little creatures I tell you," puffed Ted, with his breath coming out of his mouth like steam. "I'd rather frisk about in the open air as they do, even if I did have to lose a meal or two when the snow is deepest than to sleep in a hole in a tree all winter long as the gray squirrels do."

"I wouldn't," said sleepy Ned as he aimed a snowball at his brother's head. "But I'm ready for breakfast any time you are. Come on, there's the bell."

SHEEP.

When a flock of wild sheep is feeding one is placed at some distance out on each side to keep watch. If an enemy is seen the guard makes a sound like a whistle, and the whole flock scuds away to the rocks on the mountain. If they cannot get away they place the lamb in the center of the flock and the old sheep face outward, the biggest ram in front. When the fox or dog comes in sight the rams rush at him and they are nearly always successful in killing the enemy or driving it away. One day a shepherd saw a fox in a high rocky place trying to get a young lamb, but the mother (ewe) kept her head toward the fox and gave him no chance. At last the fox made a spring and seized the lamb and at the same time the ewe struck him with her head and they all went over the rocks and were killed.

SHEEP.

Once a man had some sheep. One of them was black and all the rest were white.

This man was very kind. He had a field of green grass where the sheep could stay all day. Every night a kind little boy came after them. He drove the sheep down the lane to the barn. In the morning he drove them back again. The sheep like this little boy. They liked his father, too. They called the boy's father their master. They called his mother their dame. One morning the little boy said:

"Baa, baa, black sheep!
Have you any wool?"

The sheep answered:

"Yes, yes, little boy
Three bags full,
One for the master,
One for the dame,
And one for the little boy
That drives me down the lane."

HELPFUL ROBIN.

Do you know what robin likes to eat? I am afraid you will think he has very strange tastes; but he really thinks grasshoppers, beetles, caterpillars, bugs, spiders, snails and worms the choicest meats in Nature's market and cherries, cranberries, blueberries, bitter dog, woodberries, mulberries, the finest of fruits. Just think how he helps the farmer by eating the insects which destroy his fruit, grain and vegetables. If it were not for the robin and our other bird friends, the army of insects would ruin the crops all over the world. Some farmers do not seem to know what good friends of theirs the birds are. Is it not strange that so many of them shoot those birds just because they help themselves to a few cherries before the wild fruits are ripe? It seems only fair play to let the birds have a share of the fruit they protect. Wise men who have learned that most birds like wild fruits ten times as much as they do the cultivated ones are planting, especially for the birds, wild fruit-bearing vines and shrubs around their orchards and gardens. In this way they save their fruit and win happy songs from the robin and his choir of sweet song birds.

THE ROBIN'S FEATHER BED.

Mr. and Mrs. Robin were working very hard to finish their house. They had to hunt all about to find enough wool, sticks and horsehair to use. It was a round house and it had no roof. But being in a large tree the green leaves made a very good roof. One beautiful day Mr. Robin came flying home with a soft red feather in his mouth. "What is it and where did you get it?" asked Mrs. Robin.

"I don't know what it is, but I got it from some queer looking thing in the garden. It was around a black thing on the ground. It was not a plant, but I don't know what it was, I had to pull and pull to get this off."

"How nice and soft it is," said Mrs. Robin. She took it in her bill and flew to the nest with it. "It will make a warm, soft bed," she said. She put it in the nest and fastened it down with a piece of horsehair.

Mr. and Mrs. Robin were happy with their nice feather bed all that spring. But a little girl felt very sorry she had left her hat out in the garden. Somebody had taken the pretty red feather from the hat. She never knew where it went. Do you?

THE OWL AND THE GRASSHOPPER.

A great white owl was sitting one day on her usual perch in a hollow tree and was trying to get her afternoon nap. But a noisy grasshopper sang his song over and over again and made sleep impossible.

"Won't you keep quiet or else go away?" asked the owl, "so that I may get a few minutes' sleep?"

"I have as much right to sing as you have to sleep," said the grasshopper, "and besides you have never done anything for me."

Presently the owl cried out to the grasshopper, "Well, you have really a beautiful voice and now that I am awake I don't wonder that you love to sing.

"Won't you let me offer you some of this delicious honey that I have here?"

The silly grasshopper was so flattered that he at once jumped up into the tree, but the owl caught him in her sharp claws and then finished her nap in peace.

Fairy and Folk Stories.
The Straw, Coal and Bean.
Elves and the Shoemaker.
The Old Woman and Her Pig
Little Red Ridinghood.
The Three Bears.
The Little Match Girl.
The Unhappy Pine Tree.
The Wind and the Sun.

Language Work in 1 B.

By Rose Frank, P. S. 77, Manhattan.

IN addition to a great many phonograms, the children are to learn all the letters of the alphabet and to write them. As many words are simply made of a few sounds familiar to the child, that are blended together, there is no reason why he shouldn't write those words also—first from copy; secondly, from dictation, and thirdly, in simple original work.

Following are some of the most common sight words and phonograms, taken especially from Ward's Primer—these are repeated so often that they become a part of the child quite unconsciously.

I
you
he
we
a
an
the
in
at
on
to
no
am
is
are
do
did
has
have
my
me
your
and
with
can
may
will
see
like
go
let
give
play
make
come
fly
eat
take
run
lays
does
nest
egg
hen
bird
cow
milk
good
ill
well
old
not
out
all
much
for
it
fast
dog
book

-at
-it
-ing
-old
-ight
-and
-ail
-ill
-all
-ind
-an
-am

It will be readily seen that by placing one or more simple phonograms before the above compound ones, and by adding s to some of the nouns and verbs, the children will have a long list from which the teacher may choose her dictation exercise. In some cases, two compound phonograms may be used in one word, as: f-ight-ing, s-ing-ing, etc.

Be it understood that these words are added to gradually during the term so that the exercises are, naturally, graduated in difficulty.

Various methods of drill will occur to the teacher—a few are here suggested: Children may mention words containing particular phonograms, but beginning with different sounds, as f..an, m..an, N..an, etc., or teacher may put list on blackboard coloring phonograms differently:—fan, man, Nan, etc., or, again, teacher may put compound phonogram on board and arrange simple ones around it, running the respective simple ones and the compound one together with a pointer.

f ight
f l :
l t m :
ight n :
m s r :
r s :
t :

So much for the words.

In the picture-study and nature lessons, in fact, in the conversation lessons in general, the best statements made by the pupils are put on the board; one or two of these sentences may serve as copies for the next lesson in penmanship. Exercises like the following may be given:

The	man	can	run.
A	bird	may	sing.
My	cat	will	eat.
Your	hen	must	fly.

By selecting a word from each column to form a sentence, many different statements can be made. By using the four words of the first and the four of the last columns in their turn respectively, the word bird of the second, and can of the third column, for instance, sixteen different statements can be made; namely:

The bird can run. A bird can run. My bird can run. Your bird can run.
The bird can sing. A bird can sing. My bird can sing. Your bird can sing.
The bird can eat. A bird can eat. My bird can eat. Your bird can eat.
The bird can fly. A bird can fly. My bird can fly. Your bird can fly.

The children may be told to ask something about some one subject mentioned above, and taught to put an interrogation point after a question. For further drill on the interrogative sentence, the class may be told to ask something about the school, the desk, a horse, a top, etc.

After a few of the foregoing exercises have been given, the children may be asked to choose from B. B. any story they wish—think of story while looking away—picture story to themselves—look and read again—then write from memory. (Teacher's work is covered now.) Expose it to children's view again—children compare theirs with teacher's—write again—many will have used the same words, and such as give the most difficulty may be used in a writing lesson, and then given in dictation another day.

Another exercise from which children derive much benefit and which makes a good introduction to original work, is the following: Put a statement on the B. B., leaving a blank space which children fill in.

Jack ————	Jack runs.
Cats ————	Cats jump.
(Who can swim?)	My ——— can swim.
(Whose dog can swim?)	—— dog can swim.
(What can my dog do?)	My dog can ————

(It will be seen that such an exercise will prove advantageous for getting expression in the reading lesson.)

Children will now be ready for short dictated sentences. Give entire sentence first, without comment—then, repeat by phrases, children writing them after having watched lips carefully for sound in this manner:

D-an h-ĭt the b-all.

Teacher pronounces slowly and children can write at once from knowledge of phonograms.

The little formal (?) language lessons of the grade are so closely allied to these exercises that one cannot leave the subject without touching upon them. In addition to the use of the Question-mark, the correct use of Is and Are, Has and Have, Was and Were, Do and Did, may be taught.

Let us just dwell on Is and Are—it will be found that the next two pair may be treated in a similar way.

The dog is old.
My book is new.
The birds are young.
My eggs are good.

The boy — here.
Some girls — out.
— your kite flying?
—— your leaves dry?

Children will see that we use *Is* when speaking of one, *Are* when speaking of more than one.

By telling of a number of things which children did, they will get in the habit of using Did instead of Done.

The use of "I" may be taught—"Tell something about yourself, John." "I am in school." "Tell something about you and somebody else, Tom." "Jane and I played together yesterday." "That's right, mention yourself last." "Ask something about yourself." "Am I doing well?"

By using "isn't" frequently, one forgets "ain't," "haven't" does away with "ain't got" and "haven't got"—"saw," with "sawn," "seen" or "sore." "I didn't do anything," not "I didn't do nothing;" "the sheep"—not, "sheeps;" you "taught" me—not "learned."

The conversation, oral language, dictation, in fact, *all* the composition lessons work together in making the child's expression natural, free, spontaneous and direct.

The Teaching of Inch and Foot.

Anna M. McCaffrey, P. S. No. 34, Brooklyn.

IN my experience in teaching very little folks, I have found that in order for a fact or process to be surely understood by the pupils drill is necessary. In the following scheme I have varied the exercises, and arranged them so they increase in difficulty, step by step, and presented the subject from many different points of view, so as to appeal to the different individual minds.

It is necessary to bear in mind (1) that the three bases of our work in mathematics (Course of Study, City of New York) are *counting, measuring* and *comparing;* (2) that all of these processes should be employed from the beginning and as far as possible in every exercise; (3) that because "Measurements and Comparisons" are printed near the end of the grade syllabus, the teacher is not to leave this important work till the end of the term.

One thing more the teacher must continually bear in mind, *i.e.,* that it is not only the nature of the child to be active, but also that it is through activity he grows and develops. Therefore, instead of trying to repress this necessary activity she should provide means by which it may be turned to good account in the process of instruction.

Material: In teaching inch and foot, the teacher must provide for every child (1) things to measure by, *e.g.*, Kindergarten sticks, pieces of splint or cardboard one inch in length, and strips of paper or cardboard one foot in length and a foot ruler; (2) things to measure, as pieces of cord, ribbon, and sticks and splints 2, 3, 4, 5 inches in length. The pupils should also be allowed to measure their primers, their desks, the length of the window-sills, of the blackboard ledges, the height of pupils, etc., etc.

Two or three lesson periods will be necessary for all the exercises necessary in measuring, counting, comparison, and the expression in language of what has been done.

In measuring by laying inch-sticks end to end to form a straight line, as along the edge of the primer or the desk, the children gain greater control of their muscles, the hand becomes more skillful, the eye more accurate. The counting of the sticks thus laid may be by ones, twos, and threes. Problems in addition and subtraction may be introduced, *e.g.*, "How many inches longer is the primer than a 4-inch stick? How many inches must be added to the 3-inch stick to make it as long as the 5-inch stick?"

Comparisons in the 1B are made by noting how much longer or shorter one thing is than another. (Addition and subtraction.) In measuring the 5-inch stick by the 1-inch stick, the former is found to be (1) five inches long and (2) four inches longer than the latter. It is not till the pupils reach 2A that comparisons are made to bring out one-half, one-third, etc.

Language: The teacher should avoid such abbreviated questions as "How long? How many inches?" Her questions must be carefully framed so as to aid the pupil to express his answer in a complete sentence. A question like "How many inches long is your reader?" will suggest to the child to incorporate in his answer the word *inches* (the name of the measure) and *long* (the idea of length).

That a foot is 12 inches long should be taught both synthetically and analytically. Twelve-inch sticks may be laid in a row and the length compared with the foot ruler. Pieces of cord may be cut the length of the ruler and then inch pieces cut off, and the number counted. Strips of paper a foot long may be creased or folded to form inch spaces, and the number of spaces counted.

The children may be allowed to play store and buy with their paper money, pieces of cord, ribbon, etc., which the storekeepers measure off. Thus buying and selling, and making change may be incidentally reviewed.

Thus in teaching inch, foot, the following exercises should be characteristic of the work:

1. Measuring.
2. Comparison.
3. Counting (1's, 2's, 3's).
4. Addition.
5. Subtraction.
6. Analysis.
7. Synthesis.
8. Buying and selling; making change.
9. Correct use of language.

Provide material for each pupil and give each one something to do.

Nature Study: 3A–3B.

By Ida M. Brown, P. S. 55, Brooklyn.

The Owl—Fall Term.

KNOWN by its *short, bulky form,* large flat ***head*** fully feathered, and sometimes with *feather tufts* like ears. Head turns all the way around—easily sees its prey. "Feathered cat."

Eyes.—Like topaz, very large, surrounded by a disk of radiating feathers like bristles. Formed for seeing at night. Directed forward. Owls blink and are distressed by sunlight. Eyes are a beautiful orange at night.

Bill.—Strong, hooked like a parrot's, adapted for tearing prey to pieces. Short.

Ears.—Large, with a kind of cover. Hear very well. Tufts of feathers on head are ***not*** ears. Ears just back of eyes.

Wings.—Broad, rounded, adapted for strong, noiseless flight. Most owls do not fly fast.

Tail.—Broad.

Claws.—Long and sharp. Toes turn easily—generally turned two front and two back. Catches prey with claws. Legs well feathered.

Size.—Female the larger. Size varies, but all appear larger than they really are, because of the thick feathers.

Plumage.—Thick, soft and downy. Mottled.

Nest.—Rough, built of sticks, leaves, grass, feathers, bones of animals, usually in fork of tree. Some owls lay eggs in holes, in decaying branches, and in ground.

Eggs.—Two to five, white.

Young.—Covered with down. Old birds very fond of them.

Food.—Mice, birds, rabbits, rats, moles, squirrels, insects, beetles, frogs—sometimes fish. Useful to man for destroying harmful animals.

Call.—Very dismal screeching, often frightening people. Sometimes choke like a person suffocating. Can bark like a dog—often fool dogs. Hiss when angry.

Habits.—Solitary. Retire in daytime to holes in trees or to old buildings or caves in the dark. Fly and hunt prey at night. Swallow many animals whole, including mice. Is very brave—a great fighter. Easily tamed and makes an amusing pet. A great mouser.

Migrates.—No.

Appearance.—Like a winged cat. Very wise. "Wise as an owl." Minerva's bird.

The Gold Finch—Fall Term.

Appearance.—A little like a canary. In summer, bright yellow; crown, wings, tail black, white markings. In winter it turns yellowish-brown and ashy brown.

Size.—Nearly 5 inches long. Inch smaller than sparrow.

Wings.—Adapted for flying. Wavy flight. Swift, easy flyer. Seldom on ground, except to bathe and drink. Perches in conspicuous places. Common bird.

Bill.—Short, strong, for cracking seeds.

Food.—Thistle-down seed (called "thistle bird"), seeds of grasses, sun-flowers, berries and other plants.

Song.—Beautiful, sad. Much like a canary's. Sings on the wing.

Common names.—Thistle bird, wild canary, yellow bird.

Nest.—Artistic, deeply cupped, elaborately lined with wool, moss, grass, hair, and other soft substances. Often found quite high (6-30 feet) in birch, wild cherry or wild apple tree, near where seeds are.

Eggs.—Five, early June. One brood a year. Generally bluish white, unmarked, 3/4 of an inch long.

Young.—Follow the parents a long time, and are fed by them.

Habits.—Lives in thickets, shrubbery, fields of thistles, etc. Sociable, lives in small flocks. Easily tamed—learns quickly. May be taught many tricks like canaries, and may imitate notes of other birds. Beautiful singer.

Migrates.—Generally not, in this latitude. If does, April 1-15 and October.

THE CHICKADEE—FALL TERM. (TITMOUSE.)

Size.—1 inch smaller than sparrow; 5½ inches long.

Color.—Ashy-gray, white breast, head, throat, large patch on front of neck black. Downy, fluffy feathers.

Bill.—Brownish-black. Strong. Can dig holes with it in bark.

Legs.—Look weak, but are very strong. Expert climbers. Can run over boughs very fast, and hang suspended by claws.

Song.—"Chick-a-dee" or "Day-day-day." Lively twitter. Sings in heavy storms.

Common Names.—Black-cap, snow-bird, titmouse.

Food.—Destroys thousands of grubs, insect-eggs, canker worms. Very useful. Runs over tree trunks in all directions, thrusting bill into every crevice where insects might be. Comes near houses in winter and eats crumbs and seeds. Like fat meat. Eat pine seeds.

Nest.—In hollows of old trees, fence-rails, knot-holes, deserted woodpecker's hole, or can dig hole themselves with bill. Line with feathers and moss.

Eggs.—6-10, white, with brownish-red specks. Fond of young.

Habits.—Cheerful, always singing, active, lively, inquisitive, friendly. Our tamest wild bird. Sociable, several seen together. Bright, knowing. Come close to houses and barns, retreating to deep woods only to nest in summer. Prefer evergreens, eating pine seeds.

Like treetops, gardens, orchards, shrubbery. Jolly, good spirits, lovable, confiding. Useful. Irregular movements.

Migrates.—No. Seems to love snow and storms.

THE BLUEJAY—FALL TERM.

Size.—11-12 inches. A little larger than robin.

Color.—Beautiful blue, white, black band around neck. Many feathers edged with white.

Bill.—Black. Slender, curved at tip. Bristles at base of bill.

Head.—With crest movable at will.

Wings.—Short and rounded.

Tail.—Long. Rounded.

Legs.—Black. Toes strong. Good walker.

Song.—Very unmusical usually, chatters, screams, harshly when alarmed, giving warning to other birds of danger near. Disliked by hunters for this reason. Great imitative powers. Can mock almost any bird, and loves to scare other birds by imitating hawk. Learns to talk in captivity. Very proud of this power and loves to display it. Loud hearty call. "Jay-jay."

Food.—Robs birds' nests, sucks eggs, tears young birds to pieces, eats grasshoppers, caterpillars, moths, beetles, fruit, berries, cherries. Steals fruit from orchard. Robs farmer's corn cribs. Eats grain and acorns, burying acorns and hard seeds in ground, so helping forests to grow. Disliked by farmers. Eats almost anything. Nuts.

Nest.—Large, bulky, clumsily-built, in notch of tall tree, often cedar. Built of coarse sticks and lichens, lined with fibrous roots, moss, hair, bark. Often conspicuous.

Eggs.—4-6, dull olive with brown spots. Carefully tended.

Habits.—Male bird very cautious in approaching nest with food for female and young. Devoted mates. Noisy, boisterous, bold. impudent, saucy, mischievous. Very intelligent, easily tamed. Suspicious, pugnacious. Attack owls whenever found, and other jays help. Unsociable, do not like other birds. Inquisitive, destructive. In captivity very mischievous, loving to carry off and hide glittering things. Conceited, bold, very talkative, a nuisance as a neighbor. Affectionate. Graceful. Beautiful. Found in woods, orchards. Likes conspicuous perches.

Migrates.—No.

THE RED-HEADED WOODPECKER—FALL TERM.

Size.—9-10 inches. About like robin.

Color.—Beautiful. Head, neck, throat crimson. Body black and white. Conspicuous. Female. Colored like male, but duller.

Bill.—Strong, long, sharp, for drilling holes in bark of trees, in search of insects, or for nest. Tap to see if there are grubs lurking under bark. Can peck a hole through a board. Pounds so hard with bill that its head looks mazy. Loves noise and often taps just for fun. Loves to work in wood and sometimes excavates nest in mid-winter, but never uses it. A carpenter. Bill light blue, black at tip.

Tongue.—Very long, barbed at end for sticking insects. Covered with sticky fluid to catch smallest insects.

Feet.—Very strong. Claws two in front and two back, sharply hooked for catching hold of bark while feeding. Can run over upright tree trunks very fast, also move sideways. Can cling upside down. Usually erect. Blue-green.

Tail.—Stiff, with sharp pointed feathers, acting as a prop while on tree trunks. Flat tail.

Wings.—Can make noise with wings. Feathers enlarged and horny.

Breastbone.—Flattened. Bird can press close to tree trunk in feeding.

Song.—Noisy bird. Shrill, lively note; can drum, squeal, squeak, cackle, splutter, loud cackling laugh. Gutteral rattle like tree-toad.

Nest.—Drill hole with bill in tree—usually dead one, because easier and sawdust softer than wood for eggs. Male and female take turns digging, while the other eats. Often work all night. Eggs laid in sawdust at bottom. Carry away chips, so no one will notice nest.

Eggs.—4-6, glossy white, brown speckled at one end.

Young.—Young of first year. Head, neck blackish-gray.

Food.—Insects, larvæ, grubs, beetles, dug out from under bark. Nuts, wild fruit. Garden fruit, corn. Stores away nuts in crevices in bark, which squirrels sometimes find and steal. Farmers dislike them, though they do good.

Habits.—Loves noise. Drums, chatters, rattles bark, taps. Tugs at bark when digging. Friendly, curious. Restless, wary. Quite tame. Bold, fearless of man, even venturing into towns. Mischievous in garden. Spear an apple with open bill and fly away. Frolicsome. Sociable, several seen together.

Enemies.—Often hunted. Black snakes the worst. Enter nest and eat young.

Migrates.—May remain, but usually migrate. Apr. 1-15, Oct. 15, Nov. 15.

Common Name.—Red-head.

THE CROW—FALL TERM.

Size.—16-17½ inches. Larger than robin.

Color.—Glossy black, with violet reflections. Female a little less glossy.

Bill.—2 inches. Long, straight, sharp. Black.

Head.—Large.

Sight.—Very keen.

Legs.—Strong, quite long. Feet large, black. Good walker. Graceful. Slow. Claws sharp, black.

Wings.—Nearly equal tail in length. Extent 3½ inches. Flight long, swift; capable of being sustained, and often at great height.

Food.—Almost anything. In spring follows plow and eats field mice, insects, grubs, beetles, worms turned up. Catches the farmer's young ducks, chicks, turkeys, and kills and eats them. Robs birds' nests and carries off and eats young birds; crushes and eats eggs on the spot, or carries them away on its bill. Pulls up and eats young corn and other grain. Eats fruit, grasshoppers, shell-fish. Drops latter from great heights onto rocks to break them open. Frogs, lizards, carrion, snakes, sucks eggs.

Nest.—Pair in March build nest in April. Built of sticks interwoven with grass, plastered within with mud, lined with soft feathers, roots, wool, hair. A rickety, coarse, large nest, conspicuous, in top of very high tree. Hard to reach, 30 feet from ground. New nest often built on site of old one. Bulky.

Eggs.—4-6, bluish-green, thickly marked with brown. Both sexes sit on eggs, and watch carefully over young. Devoted mates.

Young.—Brownish-black. Dull-colored. Sometimes eaten.

Enemies.—Hated by farmers for damage to crops, though they do some good, too. Poisoned, shot, trapped. Scare-crow. Dead crow to frighten them.

Habits.—Choose conspicuous perch. Bold, fearless. Quarrel with hawks, owls, even eagles, and try to chase them away. Gossipy. Great talkers. Intelligent, keep out of snares. During winter assemble in large flocks of thousands who return nightly to same place to roost—perhaps an old one. Extended vocabulary. Boisterous, clever. Several nests together—all birds clamor together when danger approaches. Have sentinels. Understand what a gun is for.

Song.—Harsh, clamorous voices. "Caw-caw." Discordant. Disagreeable neighbor.

Migrates.—Generally not, here. If do, in broad daylight. Not afraid of anything.

Common Name.—Corn thief.

THE WHITE-BELLIED NUTHATCH—FALL TERM.

Size.—5½-6 inches. A trifle smaller than sparrow.

Color.—Compact, smooth plumage. Ashy blue. Top of head and neck black. Under parts and side of head white.

Bill.—As long as head, slender, straight, very powerful. Can crack nuts (usually beech nuts) with it, hence the name. The blows are not merely by force of the beak but the whole body is used in hammering. The nut is fixed securely in some convenient crevice, and the bird hammers with its beak till a hole is made, through which the kernel is abstracted. Bird hammers holes in bark and takes out insects and grubs and eggs. Black.

Wings.—Nearly to end of tail, acute. Rapid flight, at times protracted. Darts from tree to tree.

Tail.—Short, broad, nearly even. Not used as a prop as woodpeckers do.

Toes.—Fine tree trunk climber because of long, strong toes, armed with sharp curved claws. These stick in bark and support bird so well that it can run easily either up or down trunk, or hang upside down on under side of branch like a fly.

Body.—Flat, compact like woodpecker's. Stout, sturdy build.

Food.—Insects, grubs, larvæ, eggs, spiders, nuts, plant seeds, especially fir cones, occasionally fruit, grain.

Nest.—Excavates hole in decaying tree with its bill or uses old woodpecker's hole. Always choose a hole with only small entrance. If entrance is too big, builds it up with mud and clay to prevent other birds from entering. Nest of dried leaves laid loosely on the decaying wood and rudely scooped into the form of a nest. Sometimes hole is lined with feathers and moss. Nest in the deep woods.

Eggs.—5-6, often as many as 10. Dull white, speckled with red and lilac at large end. Bird defends nest bravely, pecking at the intruder and hissing and scolding.

Song.—Loud peculiar note like "Quank, quank, hank, hank." Cheery. Occasional melodious twitter.

Habits.—Lively little acrobat. Rest and sleep clinging to tree trunk, head downward. Runs equally well, head up or head down. Travels about tree in spirals examining crevices for insects. Always hardy, plump, lively, interesting. Hard-working, steady. Much like woodpeckers. Inquisitive, peer down from trunk at you; not afraid. Successful, earnest insect hunters. Come near houses and barns in winter. Usually feed and travel about in pairs. Love pine woods, sometimes gardens, orchards.

Migrates.—No, winter bird. Abundant Oct.-Apr. Some go north to breed.

Common Name.—Tree mouse.

(WADER) 18. THE SNIPE—WILSON'S. FALL TERM.

Size.—10½-11½ inches.

Color.—Reddish, dark-brown, buff, bay, black, white. Colors of female less strongly defined. Inconspicuous, colored like their surroundings.

Bill.—2½ inches long. Long, straight, slender, dull, flexible, covered with soft sensitive skin and abundantly supplied with nerves toward end. Greenish-gray. Thrusts bill into water and mud in search of food. Cannot see food, and relies on sensitive nerves to find it.

Tongue.—Long, slender, pointed.

Eyes.—Far back in head, and high. Can put long bill deep into water and get no water in eyes. Eyes being far back give larger field of vision, and aid in escaping from enemies.

Wings.—Moderate, pointed. Good flyer. Has habit of flying at dawn and sunset. Flies erratically. Hard to shoot.

Tail.—Short, rounded.

Legs.—Long. Bird can wade into quite deep water for food without getting wet. Toes long. Feet cover large surface, so do not sink into the soft mud. Run erratically. Hard to shoot.

Food.—Worms, leeches, insects, larvæ, small shell-fish. Feed at night. Eat rice when South.

Song.—A peeping cry, and several rolling notes. Pleasing call "wau-aik."

Nest.—Merely a depression in the grass or moss of the meadow. Goes North to breed.

Eggs.—In June, 3-4, yellowish-olive, spotted with brown.

Young.—Covered with down. Can run about soon after being hatched. Carefully-made nest not needed.

Habits.—Hunted. Flesh a great delicacy. Hard to shoot because of irregular flying and running and protective coloring. Frequent fresh water marshes, rivers, flooded meadows, ponds.

Migrates.—Most go North to breed, and winter South when ground here becomes frozen too hard to get at food. Come March 10 from the South. Spend several weeks here, then go North to breed. Return in September and stay till frost, then South October-November. Some resident.

THE ENGLISH SPARROW—FALL TERM.

Size.—6 1-3 inches.

Color.—Adapted for dusty places. Ashy, white, chestnut, black stripes on head and shoulders. Female paler, without black markings.

Bill.—Blue-black. Short, strong, for cracking seeds.

Feet.—Brown. Hops. A bird of the ground.

Eyes.—Small, black, bead-like.

Wings.—Long, strong. Moderate flyer.

Tail.—Quite long.

Song.—Noisy, harsh chirp. Never-ceasing chatter.

Food.—Originally an insect eater, but now seems to prefer seeds, grain, fruit, crumbs. Originally imported from England in 1851 to destroy canker-worms, grubs, caterpillars, etc. Have multiplied amazingly, and are generally considered more of a nuisance than a help.

Nest.—Rough, loosely made of sticks, straws, hay, bits of string, and other material it can find. Untidy. Built in trees, under eaves, in bird-houses, on "L" roads.

Eggs.—4-8, greenish-white, speckled with brown and lavender. Four broods a season. About 25 young birds a season from each pair.

Young.—Ugly, naked, helpless.

Habits.—Found everywhere—cities, gardens, orchards, roadsides, fences. Not afraid of people. Flies about under the horses' hoofs in the streets. Avoids traps. Keen-witted. Very pugnacious, drives away all other birds. Destroys young birds. Noisy, dirty, impatient. Drinks from puddles, fountains, troughs. Swallows little stones to help grind up food, as it has no teeth. Oils feathers with bill. Takes water and dust baths. Does not mind snow and bad weather. Lively. Always chirping.

Migrates.—No.

THE OSTRICH—FALL TERM.

(*Runner.*)

Size.—Largest bird in the world. 6-8 feet. Wonderfully adapted for the life they lead; 200-300 pounds weight. Bones not hollow as in other birds. Male larger.

Color.—Male. Deep glossy black, with a few white feathers. Wing and tail plumes white. Female ashen brown sprinkled with white. Wing and tail plumes white like male. Awkward, homely. Plumage loose, protecting from sun in the desert, and allowing ventilation. American ostrich grayish-brown, 3 toes.

Neck.—Long, naked. American ostrich feathered. Thin.

Sight and Hearing.—Very acute. Eyes high. Can see farther.

Bill.—Broad.

Wings.—Short, undeveloped. Cannot fly. Uses wings in running. Long, soft, white plumes.

Legs.—Very long, strong, covered with scales. A swift runner. Leg bones so developed as to be nearly as strong as those of a horse. Can outrun horse 30-60 miles per hour. Two short, strong toes connected at base by a membrane. Outer toe shorter, padded. Inner larger with a stout, broad, sharp nail. Always runs in circles; cannot be caught by chasing, so hunter waits till ostrich comes around again. Captured by lasso, or by tripping bird up. Kick when angry, use nails as a defense. Can kick a man over. Always kick forwards. Can drive off wild animals so. Good fighter when at bay.

Food.—Wild melons, grasses, hard grain, sugar beets, dry corn, fruit, dates, grass seed, vegetable leaves and young shoots, insects, roots, fish, mollusks. Swallow stones to help grind up food. In captivity swallow almost anything.

Song.—Deep, hollow rumbling sound, like roar of lion. Hisses when angry.

Nest.—Only a depression in the sand—no lining, 3-6 feet in diameter; 12-50 or 60 eggs in one nest. Several females use same nest. Eggs are hatched by heat of sun in day. Birds sit at night. Male helps. Birds very watchful of nest. Some eggs are not in nest and do not hatch. Little ostriches eat them till they can forage for themselves. Young pretty, can run very fast. Young eaten like turkey; 40 odd days to hatch.

Eggs.—Weigh 2-3 pounds. Strong, disagreeable flavor. Eaten. Equal to 2 dozen hen's eggs. Shells used as water vessels. Hold 3 pints. Cut into spoons, ladles, etc. Very strong shells.

Habits.—Shy. Affectionate in captivity. Can swim—slowly. Live in flocks in hot, sandy deserts. Easily tamed. Live 70-80 years. Profitable to raise. First feathers plucked from living bird when 18 months old. Not good before that. Wing and tail feathers used. Some plumage coarse like hair. Best in March and April. Must be cleaned, curled, dyed. Does not migrate.

THE BALD EAGLE—FALL TERM.

Our National Bird. (Bird of prey.)

Size.—3 feet long. Extent of wings 6-7 feet. King of birds.

Color.—Adult bird, dark brown; head, tail white. Eyes, bill, feet yellow. Female the larger.

Head.—White—looks bald at a distance. Hence its name.

Bill.—Yellow, strong, hooked, sharp. Tears its prey.

Wings.—Large, strong, 6-7 feet extent. High, majestic flight. Swoop down on their prey.

Eyes.—Very strong. Yellow. Does not hurt them to look at sun. Can see very far.

Tail.—White. Almost 1 foot long.

Legs.—Yellow, feathered half-way down, lower half scaled. Very strong talons. Can carry off lambs in them.

Song.—Penetrating scream heard even above storms.

Food.—Small animals, lambs, young pigs, kids, rabbits, sheep. Prefers fish and waits until fish-hawk has caught one, then pounces on him and robs him of it, though able to catch them himself.

Nest.—A bulky platform of sticks, stalks, litter, sea-weed, turf—very rude. Built on inaccessible cliffs or mountain crags or ledges of rock several hundred feet high, or in huge forest trees. Nest 6 feet across, 3 feet deep. Keeps same nest each year. Devoted mates.

Eggs.—2 or 3 white eggs, 2½-3 inches long.

Young.—Called "eaglets." When very young downy gray. At one year, dark brown, called "black eagles." Tail and head brown. At two years, gray, called "gray eagles." At third year attain full plumage—white head and tail. Young covered with down.

Habits.—Choose a conspicuous perch. Bold, active. Travel in pairs, never in flocks. Very strong, can carry off sheep weighing over 100 pounds. Chosen as our national bird because of its strength and boldness. Female the larger and braver. Very hard to tame. May be seen in zoos—Prospect Park. Cowardly. Has been conquered by a rooster in fair fight. Live a hundred years, on an average. Cowardly parents.

Our National Bird.—Used on standards of other countries, too—Russia, etc. Used on our coins.

THE HOUSE-FLY—FALL TERM.

1st stage, egg.
2d stage, larva or maggot. Little worm.
3d stage, pupa.
4th stage, fly; 10-11 days from egg to maturity.

I. Egg.

Eggs 80-100. Always laid where there is food for larvæ when hatched. (On decaying meat, etc.) Eggs very tiny, almost too small to see. Eggs hatch in two days.

II. Larva or Maggot.

After 2 days egg hatches, and little maggot or worm comes out. Very tiny. Eat fast and grow enormously. Shed skin again and again till full grown—½-inch long. Live as larva 3-4 days. White.

III. Pupa. (Corresponds to butterfly's cocoon.)

After 3 or 4 days larva's skin contracts, gets hard, brown, shiny, and becomes a pupa. Does not eat them. Stays so 5 days. Brown.

IV. Fly.

After 5 days fly crawls out. Is full grown. Flies never grow. Little flies are flies of a different variety. Live three weeks. 10-11 days from egg to maturity.

Wings.—Two-veined, gauzy, transparent.

Proboscis.—Sucks up sweet liquids through it.

Legs.—6. Two pads on each foot covered with little bristles, also a sticky fluid. Thus can walk on very smooth surfaces, and on walls and ceilings. Each foot has also two little hooks for catching in rough surfaces.

Eyes.—3 simple, and 2 compound. Can see a great deal. Very hard to catch.

Habits.—Buzzes. Fond of sweets. Sociable lives in flocks. Found wherever man is. Cleans itself—scrapes its body with its legs.

Enemies.—Spiders, birds.

Thought to be a means of spreading disease.

Plan of Work for Week in October—3B.

HARRIETTE GOLDMAN.

MONDAY.

Mathematics—Oral, Written.

Oral: Rapid Calculations. Unequal Divisions.

$$\text{B. B.}\quad 7)\underline{5\ \ 9\ \ 5\ \ 9\ \ 8\ \ 5\ \ 0\ \ 1\ \ 8}$$

$$6)\underline{4\ \ 7\ \ 8\ \ 1\ \ 2\ \ 5\ \ 0\ \ 9\ \ 8\ \ 4}$$

Aim: Rapidity.

Written: First Step in Long Division. Familiarize child with process of Long Division. Show difference between Short and Long Division. Teach need and use of Long Division.

$$\left\{\begin{array}{l}\text{Short Division in}\\ \text{Long Division form}\end{array}\right. \qquad [\text{Ex.}]\quad \begin{array}{r} 4)\underline{92} \\ 23 \end{array} \qquad \begin{array}{r} 23 \\ 4\overline{)92} \\ \underline{8} \\ 12 \\ \underline{12} \end{array}$$

Nature Study, Plants, Earth Study.

Topic: Seeds. *Adaptations for Dispersal of Seeds. Seeds are scattered in many ways: (1) By winds. [Examples.] Dandelion, thistle, milkweed, down. Lighter seeds are carried further. (2) By water. [Ex.] Grasses, asters, and all that float. (3) By birds. [Ex.] Wild cherry, hawthorn, and all others that attract by bright colors.

English—Reading, Reading to Class, Phonics.

Reading: Stepping Stones to Literature. Page 24. The Honest Woodman.

Little Wanderers. Page 1. *Why Plants Travel.

Aim: Attention directed to the thought of the passage.

Formal Language, Composition, Ethics.

Formal Language: Exercises on the correct use of the parts of see—see, saw, seeing, seen.

Ethics: Honesty.

Spelling and Dictation, Penmanship, Copied Paragraph, Memorizing.

Spelling: *Scattered, bursting, float, burrs, travel, forest. In autumn the seeds are scattered in many ways. Some seeds float, and in that way travel far. The seed-pods are bursting now. While walking through the forest some burrs stuck to my coat.

Copied Paragraph: Autumn Stanza of Marjorie's Almanac, by Aldrich.

Manual Training, Drawing, Constructive Work, Sewing and Weaving.

Drawing: *Plant.
Aims: Observation, good execution. Life and growth.

Music.

Natural Music Primer: Page 19, G scale.
Aim: Good tone.

Physical Training and Hygiene.

Setting-up Exercise: Exercise II. from the Manual.

TUESDAY.

Mathematics—Oral, Written.

Oral: Rapid Calculations.

Apply to examples:

$$\text{B. B. Drill—}\quad \left.\begin{array}{l} 4 \text{ is } \tfrac{1}{6} \text{ of} \\ 6 \\ \left.\begin{array}{l}8\\16\end{array}\right\} \\ 12\end{array}\right\} 24 \quad \left.\begin{array}{l} 6 \text{ is ? of}\\ 9 \\ \left.\begin{array}{l}12\\24\end{array}\right\}\\ 18\end{array}\right\} 36 \quad \left.\begin{array}{l}10\\12\\15\\20\\30\\40\end{array}\right\} 60$$

Written: Long Division, continued. Process: (1) Divide. (2) Place figure in quotient. (3) Multiply divisor by it. (4) Subtract. (5) Form new dividend.

Aim: Rapidity.

Nature Study, Plants, Earth Study.

(4) By rolling. [Ex.] Apples, acorns, hickory nuts, and other heavy, round fruits. (5) By means of coats of animals. [Ex.] Prickly fruits, burrs, etc. (6) By action of plant itself; bursting of seed-pods. [Ex.] Morning glory, etc.

Advantages of Seed Scattering: Gardener finds that plants raised from seeds ripened a distance away from where seed was first grown are distinctly better.

English—Reading, Reading to Class, Phonics.

Reading: Baldwin's Reader. Page 14. Seeds and Plants. Part I.
All the Year Round. Autumn. Page 35. *The Scattering of the Seeds.
Reading to Class: At the Back of the North Wind.

Formal Language, Composition, Ethics.

Composition: Descriptive Topic. *How some seed I watched were Carried.

Spelling and Dictation, Penmanship, Copied Paragraph, Memorizing.

Spelling: Matter, wonder, happened, ambulance, terrible, accident, passed, something. What is the matter? Something terrible must have happened. The ambulance just passed. I wonder if any one was hurt. The boy met with a terrible accident.

Penmanship: Movement Exercises. Drill for Copy.

Manual Training, Drawing, Constructive Work, Sewing and Weaving.

Drawing: Illustrative. Points of Interest in Borough of Manhattan: East River Park, Obelisk, Menagerie, Museum of Art, Aquarium, Grant's Tomb, Flatiron Building, etc.

Music.

Natural Music Primer. Page 81. Exercise 406.

Physical Training and Hygiene.

Setting-up Exercise: Exercise II. from the Manual.

WEDNESDAY.

Mathematics—Oral, Written.

Oral: Rapid Calculations. Increasing and decreasing a number of 2 orders by a number of 2 orders. Apply to examples: A boy had 34 marbles. He played and won 23 marbles more, but afterwards he lost 14 marbles. How many marbles did he have left? etc.

Written: Long Division. Teach use of trial divisor when divisor has 1 in unit's place:

$$21\overline{)42\quad 65\quad 84\quad 76\quad 98}$$

[Explanation]: 21, the divisor, is nearer to 20 than it is to 30, so try 2 as a trial divisor. 2 into 4 twice; 21 into 42, twice.

Nature Study, Plants, Earth Study.

Plants gain by change of air. Plants gain by change of soil. If seeds are dropped close around parent plant in a confined space, they grow up in a crowd and there is a desperate struggle for existence.

English—Reading, Reading to Class, Phonics.

Reading: Baldwin's Reader. Page 15. Seeds and Plants. Part II. Wilson's Nature Reader (Second Reader). Page 10. The Bag of Winds.

Phonics: Ur. (Add ing as final syllable.) [Examples]: Turn-ing, burn-ing, churn-ing, hurt-ing, etc.

Formal Language, Composition, Ethics.

Formal Language: Test of the use of the parts of see.

Spelling and Dictation, Penmanship, Copied Paragraph, Memorizing.

Spelling: Divide, division, divisor. Figure, quotient, dividend. Menagerie, museum.

Poetry: Autumn Stanza of Marjorie's Almanac, by Aldrich.

Manual Training, Drawing, Constructive Work, Sewing and Weaving.

Construction: *Box for seed collection.

Aim: Accuracy and neatness.

Music.

Dictation Exercise: Melodic scale progressions in short phrases. G scale.

Aim: Ear training.

Physical Training and Hygiene.

Setting-up Exercise: Exercise II. from the Manual.

THURSDAY.

Mathematics—Oral, Written.

Oral: Rapid Calculations. B. B. Drill in Subtractions.

$$\begin{array}{r} 7\ 5\ 0\ 9\ 3\ 4\ 0\ 1\ 3 \\ -3\ 1\ 7\ 8\ 1\ 0\ 2\ 7\ 4 \\ \hline \end{array} \text{ etc.}$$

Written: Long Division. Practice in the use of the trial divisor.

B. B.	31)	64	42	98	75	31
	41)	44	98	167	305	294
	71)	85	153	214	294	362
	91)	98	457	372	729	653

Nature Study, Plants, Earth Study.

Topic: Earth Study. (a) Hills. Made by the action of running water, which is constantly wearing away land and carrying it to different parts of the country. Watch little streams flowing in gutters after heavy rains. (b) Upheavals. Some hills are formed of rock. High hills form mountains. Hills, isolated and in chains.

English—Reading, Reading to Class, Phonics.

Reading: Baldwin's Reader. Page 16. Seeds and Plants. Part III. Tarr and McMurry's Geographies. [First Part.] Page 10. Hills.

Formal Language, Composition, Ethics.

Spelling and Dictation, Penmanship, Copied Paragraph, Memorizing.

Spelling: Height, slope, base, streams, beautiful, country, exercise, thistle. The hills make the country beautiful, etc.

Penmanship: Ink-copy in copy-book. C copy.

Manual Training, Drawing, Constructive Work, Sewing and Weaving.

Music.

Natural Music Primer. Page 81. Exercise 407.

Physical Training and Hygiene.

Hygiene: Necessity of exercise. Caution against too violent exercise.

Friday.

Mathematics—Oral, Written.

Oral: Rapid Calculations. Mental applied examples:

(1) What part of a peck is 2 quarts?
(2) If 4 kites cost \$0.09, what will 1 dozen kites cost?
(3) $\frac{1}{4}$ of $36 \times 6 + 8 - 6 \div 7 \times 8 = ?$ etc.

Written: Long Division. Example:

$$\begin{array}{r} 41 \\ 21\overline{)861} \\ \underline{84} \\ 21 \\ \underline{21} \end{array}$$

Apply terms: Partial product, partial dividend.

Nature Study, Plants, Earth Study.

People like to build their houses upon hills, because it is healthful there and the views are beautiful.

Parts of a hill.

It is colder at the crest of a hill than at its base. Hills in the vicinity of the school-house.

English—Reading, Reading to Class, Phonics.

Reading: Wilson's Nature Reader. [Second Reader.] Page 46. The Story of the Thistle.

Tarr and McMurry's Geographies. [First Part.] Page 12 (bottom of page). Hills, continued.

Formal Language, Composition, Ethics.

Conversations on Stories Read in Library Books.

Spelling and Dictation, Penmanship, Copied Paragraph, Memorizing.

Spelling: Review test of week's work.

Manual Training, Drawing, Construction Work, Sewing and Weaving.

Drawing: Object, flower-pot.
Aims: Good placing; broad, gray lines.
Sewing and Weaving Baskets.

Music.

Natural Music Primer. Page 19.

Physical Training and Hygiene.

Setting-up Exercise: Exercise II. (Manual).

Geography in Grade 4A.

By Reuben C. Symes, P. S. 16, Manhattan.

HOME Geography: Topography of the City of New York and vicinity; the people and their occupations. Boroughs and city boundaries, Greater New York, five Boroughs:

Boroughs:
Greater New York.
Manhattan,
Bronx,
Kings (Brooklyn),
Queens (Long Island City),
Richmond (Staten Island).

Study map of the city of Greater New York. See how irregular the city appears. Appears to be cut in several pieces. Each part separated from the other parts by water. Manhattan most important borough. A narrow body of land set between two rivers. Boundaries of Manhattan: (North) S. D. Creek, (South) Upper New York Bay, (West) Hudson River, (East) East and Harlem Rivers.

The North and East Rivers meet at the southern end of Manhattan. Both flow into Upper New York Bay. Opposite Manhattan are Jersey City, Hoboken and Weehauken. Compare Manhattan of to-day with that of three centuries ago. To-day a great commercial city. Three hundred years ago a beautiful island covered with thick forests. Great changes have been made since the time of the Indians. What Henry Hudson saw when he sailed into our harbor in 1609. The changes he would see to-day.

Bronx Borough, north of Manhattan. Square shaped. Bronx River divides borough in two unequal parts, Fordham and Van Cortlandt, (Kings Borough) Brooklyn and Queens. They are parts of a large island (Long Island), Brooklyn second only to Manhattan. Connected with Manhattan by bridges, Brooklyn and new East River bridges. Many ferries.

Richmond (another island), (Staten Island) forms part of the city. It lies southwest of Manhattan.

Size and population of N. Y. City.—In the amount of ground it covers N. Y. City is the longest city in the world. If we count the number of people who live in N. Y. City, it is second to London, England. All 5 boroughs combined cover over 300 sq. mi. and contain about 3½ million people.

The largest borough is Queens. This, with the exception of Richmond, has the smallest population. Manhattan is the smallest borough. More than half the people of the Greater City live in Manhattan.

OCCUPATIONS.

Many and various. To supply people of the Greater City, wheat, meat, vegetables, cotton, etc., must be brought from places hundreds and even thousands of miles away. Most of the material sent here is used to supply the city itself, some of it is sent from N. Y. City to other cities.

Material.	*Resulting Product.*
Leather.	Shoes.
Cotton.	Cloth.
Lumber.	Furniture. Building material.
Iron.	Tools. Building material. Printing presses. Boilers. Hoe press.

MADE.

Ships in shipyards. Wholesale and retail establishments. Explain difference. N. Y. City a great city for buyers from other cities. The advantages of the retail stores. Dep't Stores. Location of these.

B'way 14th St. 23d St. Sixth Ave.	Manhattan.

Fulton St., Brooklyn.

These stores employ a great many people. One store alone said to employ 3,500 people.

Read Tarr & McMurray's Home Geography, Pp. 164-165.

CITY GOVERNMENT.

Mayor—Head of City Government. He appoints heads of different Dep'ts, Public Parks, Ferries, Docks, Police, Fire, etc. Comptroller—elected by people. Sees that City's money is paid out for lawful purposes. Board of Aldermen—elected by people. President of Boroughs—decide all questions as to public improvements, such as paving of streets and the making of Public Parks.

POLICE DEP'T, FIRE AND HEALTH DEP'TS.

Many fire stations throughout the city. Firemen on duty at these. Alarms sent in and answered instantly. Alarm Boxes on street corners. Engine, Hose Cart, Truck (or Hook and Ladder), Fire Patrol, Water Tower, Chief's Carriage. Horses strong and swift. Cars stop at approach of Engines. Right of way. Fire lines at a fire.

POLICE AID TO FIREMEN—POLICE DEP'T.

Police patrol the streets to enforce city laws and to arrest all lawbreakers. Many police in Greater City. While many patrol the streets, others remain at the station houses so as to be ready in case of fires, accidents, or riots. Patrolman, Roundsman, Sergeant, Captain, Inspector, Dept. Comm'r, and Comm'r. Means of becoming Firemen and Policemen. Schools for training.

HEALTH DEP'T—HEALTH INSPECTORS—STREET CLEANERS.

Thousands of men employed to remove dirt from the streets. During the summer the streets are often washed. Watering wagons. Use of pumps or hydrants. In winter the snow is removed by wagons. The Board of Health sends out inspectors to all houses in the city to see that everything is in a healthful condition. All sickness reported, contagious disease sufferers removed from among the well people. The house is then disinfected.

Nationalities represented in N. Y. Almost every nationality represented in this city. Many of the immigrants come from Europe. Usually crowd to the poor districts. In these districts the houses are so crowded with people that there are as many in a single block as in some towns. Manhattan contains many foreign localities. Italian population found largely in the district extending from Mulberry to Bleecker Sts. Jewish found living east of the Bowery and from Catherine to Houston St. German and Hungarian found on the east side from Houston to 14th St. Chinese—Mott, Pell and Doyer Sts.

These people are for the most part of the poor class. They live in very crowded districts, large families sometimes living in one or two rooms. These rooms are often very small and poorly lighted. These people have to work very hard for a living. They do much for the prosperity of the city.

Location of main avenues and streets. Residential and business districts. The older streets of N. Y. twist in every direction. This is probably due to the fact that old Indian trails or paths that led to the farms of the old settlers fixed the direction of the oldest streets in the city.

Names of some of streets remind us of olden times, Stuyvesant St., Beaver St., Maiden Lane, Bowery. In the newer parts of the city are laid out at right angles to each other and number for convenience. Explain convenience.

In Manhattan the avenues run N. and S. These are crossed by streets that run from river to river. Cars run along all of these avenues, Fifth Ave. excepted. Most of these cars are moved by electricity.

BUSINESS DISTRICT.

This district lies below Central Park, and especially below Union Sq. Broadway, the most important street of the business district, runs through its central part. Financial or money district, Wall and Broad Sts. Jewelry district, Maiden Lane. Wholesale dry goods, Chambers to Canal Sts. Leather district, Frankfort, Pearl and Ferry Sts.

Fifth Ave., being about exactly in the middle of Manhattan Island, is the dividing line between the East and West sides of Manhattan. Streets from Fifth Ave. to N. R. are called West, and those from Fifth Ave. to E. R. are called East.

RESIDENTIAL DISTRICT.

Magnificent mansions facing Central Park, East and West. Homes of the wealthy people found on Fifth and Madison Aves.

EXPLANATION OF BUSINESS CONCERNS—INDIVIDUAL AND CORPORATE.

Real Estate Agencies.—Some men own land and houses which they allow people to occupy by paying rent. When a man finds that he cannot rent or sell his house he employs some one to find a tenant or purchaser.

Contractors.—A man who agrees to do a piece of work for a certain sum of money. He employs different kinds of laborers, masons, carpenters, etc., paying each and keeping rest for himself.

When a number of men join their fortunes to make one large business enterprise, we say they have formed a company or corporation. Many kinds of corporations.

Banks.—Take care of people's money; pay certain amount of interest for its use. In turn they loan it to business men who pay them for the use of it.

Insurance Cos. (*Fire.*)—Agree to pay cost of burned houses. The owners, in order to get the benefit of this, pay a certain amount of money each year to the Insurance Company.

Accident Insurance. (Explain Life Insurance.)

Building large steamers or railroads are such undertakings that no one man has enough money to accomplish this. For this reason men join together to pay the cost and share the profits.

Skilled and Unskilled Labor.—The men who have no goods to sell, sell their labor; the more skilled the labor the better the wages. Where the work does not require much thought the pay is small. Men who have learned a trade command higher salaries, *e.g.*, carpenter, mechanic and printer. Men who hold positions which require time and study to attain, command the best salaries, *e.g.*, lawyer, doctor, teacher, etc.

Land and Water Forms about Manhattan.—Hudson River to the west of Manhattan Island. One of the most beautiful rivers of the world. From the Battery to 125th St. crowded with boats of all kinds. All along the shore are great wharves, landing places of steamers coming from all parts of the world; great cargoes left on these wharves. The lower part of the Hudson River is known as the North River. Above

125th St. the shores lose their city-like appearance. No more tall buildings or smoking factories; instead we have great rocks and trees, the Palisades. To the east of Manhattan we have the East River. In this River are Riker's, Ward's and Blackwell's Islands. On these islands are buildings owned by the city. Here the poor and sick are sent. Blackwell's Island is used as a penitentiary. Here are sent men and women who have broken some of the city laws. To the south of Manhattan Isle we have Upper N. Y. Bay, Ellis Island—immigrants received here. If they can show that they are not likely to become charges of the city, they are admitted; if not, they are transported. Criminals from other countries when recognized are not admitted. Health of all investigated.

Bedloe's Island.—On this island stands the statue of Liberty by Bartholdi, presented to us by the French people. Typifies "Liberty Enlightening the World." The island is U. S. property, and is used as a port for officers and soldiers of the U. S. Army. In the Lower Bay are to be found Swinburne and Hoffman Islands. Here are taken the people who have been suffering from contagious diseases on board of incoming vessels.

The Harbor, Water Fronts, Wharves, Incoming and Outgoing Vessels.—N. Y. is a great commercial city because of its excellent harbor. Best shipping point in U. S. All the great R.R.'s of the east centre in N. Y. All material brought from different parts of the U. S. to the city by the railroads are sent to some one of the many piers and thence to foreign ports. Most lines have their vessels sail to and from N. Y. because the products they bring can, in turn, be loaded at the piers on the trains that take them to all parts of the country.

In N. Y. harbor the water is deep enough for the largest of vessels to lie close to the wharves. In N. Y. harbor vessels find protection from storms; in fact, they find perfect safety. Explain reason to class.

There are hundreds of wharves lining the shores of Manhattan, Brooklyn and Richmond. N. Y. Harbor is well provided with entrances and exits. Hudson River and Erie Canal to Buffalo—to the Great Lakes, to any part of U. S. East River and L. I. Sound to neighboring States. Upper Bay, the Narrows, the Lower Bay, to the ocean and across to the East Hemisphere. Read p. 149, Tarr & McMurray.

Incoming and Outgoing Vessels.—Great passenger steamers do not carry only passengers, but also carry cargoes from all countries. Great "gangs" of men called "longshoremen" help unload these different products from different countries. From France—wine, silks, gloves, toys, perfumery. From England—linen made from Irish flax, steel manufactures, *e.g.*, knives, scissors, needles, etc. From Germany—woolens, wines, toys. After unloading these materials these same longshoremen load them again with the material from this country to Europe. We know that the countries of Europe do not raise enough corn, grain or wheat to supply themselves, nor do they have enough cattle to feed their people. We have more than enough of these, so we sell what we do not need. We also manufacture articles which they do not make and these we also sell to them. Explain what is meant by "Tramp Steamers," their uses, where they are to be found, etc.

Routes of Travel and Transportation.—Most of the people are carried on surface cars, trolley cars run by electricity. In Manhattan, run by underground trolley; in the other boroughs by overhead trolleys. Elevated railroads run by steam or electricity.

Ferries, Tunnels, L Roads.—9th and 6th Ave. join at 53d St. 6th Ave. to 58th St. and Central Park. 9th Ave. to 155th St., where it connects with a R.R. for stations to the north. (These two are the west side lines.) The east side lines are on 2d and 3d Aves. 3d Ave. runs along Bowery to 129th St.; at 129th St. the cars cross into the Bronx and go as far as Bronx Park. 2d Ave. line runs through a very crowded district and joins the Third Ave. line at the Harlem River. Grand Central Station at 42d and Madison Ave. Suburban residents use the trains running from this station daily.

Tunnels.—In Manhattan the tunnel or subway starts from City Hall and runs N. dividing into two tunnels, one going to the extreme N. of the island and one under the Harlem River into the Borough of the Bronx. Maury Geography.

A tunnel is being constructed under the Hudson River to run to 34th St., Manhattan, connecting with L. I. Railroad.

Other tunnels are being planned to connect Brooklyn and Queens with Manhattan.

Bridges—Brooklyn Bridge.—One of the most wonderful in the world, connects Manhattan and Brooklyn (East River). Thousands cross daily on foot or by trolley or train. Two paths for wagons and carriages. Promenade. Took 13 years to build. Frye's Elements of Geography.

New East River Bridge.—Larger than the Brooklyn Bridge. Opened Dec. 19, 1903, by Mayor Low. Known as the East River or Williamsburg Bridge. Extends from Broome St. to Brooklyn.

Ravenswood now in course of construction. To extend from 60th St. to Queens, crossing Blackwell's Island. Harlem River Bridges: 1st Ave. Bridge, Railway at 2d Ave., iron drawbridge at 3d Ave. for general traffic, 4th Ave. drawbridge, N. Y. Central trains cross this. Central or McComb's Dam Bridge, High or Aqueduct Bridge, carries water into Manhattan, Washington Bridge ½ mile long.

Ferries.—Many ferries connect Manhattan with Brooklyn and Queens: Wall St., Brooklyn-Montague St., Grand St., Broadway, Brooklyn; 10th and 23d, Greenpoint. Redway and Hinman's Natural Geography.

To Queens from James' Slip and 34th St. Hudson River ferries connect with all great R. R. stations on N. J. side. Mention most important of these. See Rand, McNally Geographies.

POINTS OF LOCAL INTEREST.

Parks.—Central Park, 59th to 110th, 5th to 8th Ave. Fine drives, walks and lawns. Tennis, baseball, croquet grounds. Menagerie, Obelisk, Museum of Art, Museum of Natural History. Lakes, boating summer; skating winter.

Bronx Park, end of 3d Ave. "L" R.R. Botanical gardens. Zoological Gardens. Immense area, allowing greater freedom for animals than in Central Park.

Van Cortlandt Park, in Bronx grounds, laid out for public games.

Riverside Park, 72d St. to Grant's Tomb, in which lie the remains of General Grant.

On Riverside Drive is to be seen Soldiers' and Sailors' Monument.

Smaller parks, resting and breathing places for grown-up folks. Band concerts in summer. Playgrounds for children.

Union Sq., 14th St., Broadway.

Madison Sq., 23d St.

Bryant Park, 40th, 42d Sts. and 5th and 6th Aves.

City Hall Park, City Hall.

Battery Park, Battery.

Aquarium, Battery Park. Davis & Deane's Inductive Geographies.

Recreation Piers. Band concerts. Other points of interest, Cooper Institute, Columbia University, Public Schools, etc.

Churches.—Trinity, St. Paul's, Catholic Cathedral. State briefly location and why of interest.

LOCAL HISTORY.

Stories Connected with Early History of N. Y.—Three centuries ago N. Y. was the home of wild Indians. (Tell about Indians.) Customs, manners, occupations, characteristics, appearance. How they cooked, kind of dwellings, what houses were made of, their boats, how made, their squaws and papooses. Read stories about Indians in John W. Davis's Four N. Y. Boys.

Story of Henry Hudson and Discovery of Hudson River.—Hudson and English sailors in employ of a Dutch Co., trying to find shorter course to India. Northeast course. His failure; what he really found. Entered N. Y. Bay, sailed up river which bears his name. Saw possibilities of fur-trade with the Indians. Advised Dutch to establish trading posts. Fate of Hudson. See Four N. Y. Boys, Educational Pub. Co.

Settlement of Manhattan Island.—First trading post 1614 to 1664, for 50 years. Four Dutch governors in this period. The first Governors were not wise and often angered the settlers and Indians. Once there was a fierce war in which some of the whites were killed. The people built a wall across the northern part of the city to protect themselves from the Indians. This place has since been known as Wall St.

Dutch Governors.—Peter Minuit bought Manhattan Island from Indians for what was about $24, in beads, trinkets, etc.

2. Wooter Van Twiller purchased Randall's, Ward's and Governor's Island.

3. Wm. Kieft. Gordy's History.

4. Peter Stuyvesant (last and greatest of Dutch Governors). Tell stories about Stuyvesant.

The people were not always contented under the rule of the different Governors. One was too harsh with the Indians and thus brought about attacks on the whites. One was too lenient and again suffering was caused among the whites. Then the people objected to paying taxes without being given a chance to make the laws. They wanted to govern themselves. Finally they were allowed to have a small share in their own Government. Fifty-five years after Hudson sailed up the Hudson the English came and took the city away from the Dutch. Under the Dutch the city was called New Amsterdam, after a city in Holland. Under the English it was called New York in honor of the Duke of York, to whom this land had been given by his brother, King Charles II of England. The English held N. Y. for about 120 years; up to the end of the American Revolution. Read Montgomery's or McMaster's History.

Henry Hudson was an Englishman, sailing in the employ of the East India Co. He set sail in the Spring of 1609, in his ship the "Half Moon," wanting to find a shorter passage to India and China. In September of the same year he entered what is now New York Bay and sailed up the Hudson River, which is named in his honor. The Dutch, as a result of his discovery, laid claim to all the land around N. Y. Harbor, and called it New Amsterdam. Many people came to N. A. to live, and some of the most famous of families in N. Y. to-day are descended from them. In 1664 the English came over, took N. A. from the Dutch, and changed its name to New York. When Hudson came over on a former voyage he had found the northern seas crowded with whales. The English Co., which had sent him out, fitted up whaling ships to catch them. (Oil, whalebone.) The Dutch who lived in Holland then asked him to be the captain of their vessel. He sailed slowly down the coast of North America, watching for an opening towards West. At last he entered our beautiful harbor by which thousands of ships reach N. Y. When Hudson went back, the Dutch sent over men to trade in furs with the Indians. See Anderson's Historical Series.

The Indians.—When Columbus came to America, he called the people he found here Indians, because he thought he had reached India. The Indians were tall and thin, with dark hair and eyes and copper-colored skin. They were peaceable when treated well, but fierce when aroused. They wore leggings and cloaks made of deer-skin. The Indian women wore aprons of deer-skin and moccasins embroidered with beads. The houses of the Indians were called wigwams and were made of bark or mats or skins on the ground. Their money was called "wampum." The Indian women were known as "Squaws" and the baby was a "papoose." The Indians wrote on birch bark and used the juice of berries for ink. Instead of writing words and letters as we do, they made pictures which showed what they meant to say. The canoes were the Indians' boats. They were very brave and tricky in war and fought with bows, arrows and tomahawks. As the Indians had only wooden bowls, which they could not put on the fire, they filled the bowls with water and then threw in heated stones. When the water was hot they put in whatever they wished to cook. Fish and meat were laid over the fire or on a gridiron of sticks. Corn and squash were roasted under hot ashes. The Indians were very fond of smoking. The Indians' canoes were made of cedar wood which is easily bent. Over the framework of cedar was sewed the white bark of the birch tree. The thread used for this purpose was the tough root of the larch. Then to make it water-tight the seams of the boat were smeared with the gum of the fir-tree. (The Indians believed in dreams, signs and various omens. They planted nothing but corn, beans, peas and pumpkins.) See Channing's Histories.

Settlement of Manhattan Island.—The first people to settle on Manhattan were some fur-traders sent over by the Dutch after the discovery of Henry Hudson. This was in the years 1613-1614. In 1614 the United Netherlands Co. was chartered for a brief period, and in 1621 the West Indian Co., larger and richer than the former, was formed. This great company was allowed to appoint its own Governors, make treaties, enact laws, and was granted exclusive control of trade on the whole American coast. In 1623 thirty families were brought over to form a colony. These were landed in Albany. Two years later another company came over bringing horses, cattle, sheep, swine, agricultural implements and seed and grain and began to settle on Manhattan Island. The first fort was erected in 1615. The first Governor was Peter Minuit, who in 1624 bought the whole island for $24. The second Governor was Wooter Van Twiller, who rebuilt the fort and purchased Governor's, Ward's and Randall's islands in the East River. The first clergyman on Manhattan was Everardus Bogardus, and the first church building stood on Pearl St. The first schoolmaster was Adam Rolandsen. The third Governor was Wm. Kieft and the last, the greatest of them all, was Peter Stuyvesant. In 1664 the English took possession of Manhattan. In 1672 the Dutch recaptured it, but in 1674 lost it for good. Peter Stuyvesant was the last and greatest of the Dutch Governors of New Amsterdam. His rule came to an end in 1664, when the English took possession. He was a very brave and wise man, of great force of character, but very haughty and stubborn. He would not allow anyone to contradict him, and was absolute and despotic in his notion of government. As a Governor he made great advancement in the Colony. He was very strict concerning drunkenness and profanity and allowed no liquors to be sold to the Indians. He was very fond of war, and in a battle with the Portuguese he lost a leg. After that he always wore a wooden leg and many interesting stories are told concerning it. Stuyvesant Sq. in N. Y. C. is named after him. Consult Mowry's Histories.

HISTORIC LOCALITIES.

Battery—Broadway and N. R.
Sub-Treasury—Wall and Nassau Sts.
Trinity Church—Broadway and Wall Sts.
St. Paul's—Broadway and Vesey St. Barnes' Histories.

MONUMENTS.

Nathan Hale—City Hall Park.
Benj. Franklin—Print. House Sq.
Horace Greeley—Park Row, Tribune Bldg.
Geo. Washington—Wall and Broad Sts. (on site of Federal Hall, where Washington took oath of office as first President of U. S.)
Peter Stuyvesant—Stuyvesant Sq.
Martyrs' Monument—Trinity Churchyard.
Washington Arch—Washington Square and 5th Ave. and 4th St.
Lafayette, Washington, Lincoln } Union Sq., 14th St. and Broadway.
Farragut—Madison Sq., 23d St. and 5th Ave.
Columbus—59th St. and 8th Ave.
Obelisk—Central Park near 82d St. Came from Egypt—70 feet high—200 tons.
Statue of Liberty—Bedloe's Island. (151 feet.)
Peter Cooper—7th St. and 3d Ave.
Grant's Tomb—Riverside Drive (123d St.).
Roscoe Conkling—Madison Sq.
Abraham De Peyster (Bowling Green), Mayor of N. Y. in 1698.

Peter Cooper was born in N. Y. in 1791 and died there in 1883. In early life he was very poor, and began to work as a hatter in his father's store at the age of 15. He had very little education, so he studied hard at night. From his father's business he entered the shop of a carriage maker. Then he opened a grocery store where Cooper Institute now stands. Later he engaged in the iron business. His fame rests on the many good things he did for his fellowmen. He was fond of education and founded Cooper Union in order that everyone, no matter how humble or poor, might have the benefit of some learning. Cooper Union is open to students in the evening. Those who go there have to work during the day. There are classes in engineering, art and drawing.

OLD COLONIAL DAYS IN N. Y.

Some people, when they first came to this country, dug holes in the ground for dwelling places. Some built cabins of round logs, but later on better houses were built. In the center of the better houses was a large room called the hall. In this was a great fireplace, so wide that there were seats enough inside. Here the children sat in the evening, and by looking up could see stars through the chimney. There were no carpets on the floor. The bedroom was strewn with sand in which pretty figures were made. The people had no china dishes, but used wooden ones. But some rich people had pewter ones. They used pewter dishes. Pots and kettles hung over the logs in the fireplace. On a swinging crane, a whole pig or fowl was hung before the fire and turned about while it roasted for dinner. Bread and cheese was eaten for breakfast. There was no tea or coffee. Indian meal, mush, provided the supper, and sometimes there was wild turkey and fish. The people engaged in farming and fishing and traded with the Indians and the English. Both men and women used a great deal of lace and satin on their clothes. The men wore short breeches fastened at the knee with buckles. Long stockings and shoes with buckles. The good suit was carefully laid away on the return from church on Sunday. There were not many schools and some children never even learned to read. The *sports* consisted of coasting, skating and sleighing. There were no trains, and it was a slow and difficult matter to travel. There were no stage coaches, for there were no roads. On land everybody went on horseback. On water they traveled in canoes and little sail boats. Peddlers carried their goods from village to village on pack-horses and the roads were too narrow and the woods too thick for the wagons to go through. Christmas was a particularly interesting time in Colonial N. Y. A great fire burned in the fireplace and the Christmas trees were very beautiful. They were one blaze of light with all the candles that were on them. The housewives made queer little Dutch cakes which were a feature of the holiday season. We must thank the Dutch for the pretty little Christmas tree which we enjoy so much.

The Dutch were very fond of dancing and in addition to Christmas they observed the following holidays: *New Year's*, a day of feasting. *Passover* or *Easter*, when eggs were colored. *Whitsuntide* and *Kriss Kringle Day*. (Chancellor's History U. S.)

Language Work in 4A and 4B.

Clara Rosenberg and Ina B Powlesland.

Sentences.

THE teacher holds an apple in her hand and asks the children to give her some of their thoughts about it. These are some of the thoughts that the children will give: The apple is round. The apple is red. The apple has brown seeds. The teacher writes the thoughts of the different pupils on the board. She tells the class that a thought expressed in words is called a sentence. The class learns: A sentence is a thought expressed in words.

Directions to pupils: Write sentences about: The schoolhouse. The playground. Your father. Your mother. Your house. Your work. The golden-rod. The wind. The sun. Your desk. Think of objects that you saw on your way to school. Write one sentence about each object. Look at these sentences: A soft answer turneth away wrath. Haste makes waste. Birds of a feather flock together. A stitch in time saves nine. Still water runs deep. A new broom sweeps clean. These sentences are proverbs. That is they express thoughts which have been remembered and repeated for hundreds of years because they are worth keeping. Read the proverbs and see if you can tell what they mean. Copy the sentences just as they are written. Look at them carefully and tell where you find capital letters. Then how must we write the first word of every sentence? The first word of every sentence must begin with a capital letter.

Write sentences about your school. Tell: 1. Where the schoolhouse is. 2. How many schoolrooms it contains. 3. Where your room is. 4. How many windows your room has. 5. How many desks it contains. 6. The name of your teacher. 7. To what class you belong. Read aloud the sentences that you have written. With what kind of a letter does the first word of each of these sentences begin? What mark is placed at the end of each of these sentences?

Write sentences in answer to these questions: 1. What is your name? 2. How old are you? 3. What do you like to play? 4. What do you like to study? 5. What can you do to help your teacher? 6. What should you like to do when you are grown up? Write your thoughts about some dog that you know. Tell: 1. His name. 2. Color. 3. What he can do. 4. What he likes to eat. 5. How he is cared for.

Type Forms.

1. *What things do.*—Board work: Dogs bark. Bees hum. The wind blows. Flowers bloom. Horses neigh. Sheep bleat. Birds sing. Lions roar. Fish swim. The sun shines. The first sentence tells what dogs do. What does the second sentence tell? The third? All these sentences tell "what things do." Make sentences which tell what these things do: Children—, The horses—, Cows—, Men—, The little child—, The pretty woman—, Women—, The gray mice—, The large

mouse—, Oxen—, The ox—, The goose—, Geese—, The deer—. Here the pupils' attention may be called to the fact that the plural of mouse is mice, of goose—geese, of woman—women, etc.

2. *What is done to things.*—The house is torn down. Naughty boys are punished. The broken pencils are sharpened. Mary is sent to bed early. The cake is baked. Meat is eaten. Letters are written. The slate is broken. (Treat these sentences in the same way as the sentences under the first type are treated.) (Here is a good place to use those parts of irregular verbs which are frequently misused by the children, *e.g.*, eaten, broken, written.)

3. *The quality of things.*—The apple is juicy. The horse is gentle. The fire is hot. The cat's tongue is rough. The load is heavy. What word tells about or describes the apple? the horse? the fire? the cat's tongue? load? Use skeleton sentences. Northern winters are——. The golden-rod is——. The leaves are——. The day is——. The color of the sky is——.

4. *What things are.*—Iron is a metal. Flies are insects. Foxes are sly animals. Weeds are great travellers. All his fingers are thumbs. The rose is a beautiful flower.

SKELETON SENTENCES.

Spiders——. Horses——. A fly——. Pansies——. An oyster ——. The oak——. Mica——. The strawberry——. Granite——. The maple——.

SUBJECT AND PREDICATE.

Examine the following sentences: 1. Plants grow. 2. Fishes swim. 3. Hailstones fall. 4. Winds blow. 5. Ships sail. 6. Rivers flow. 7. Balls roll. 8. Lead sinks. What are we talking about in the first sentence? In the second? etc. The part of the sentence which names that of which we think, speak or write is called the subject of the sentence. In the first sentence which word *tells* about the subject? In the second? Third? The part of the sentence which *tells* something about the subject is called the predicate. We cannot have a sentence unless we have a subject and a predicate. Make this a strong point in the lesson.

THE SUBJECT.

Write a sentence about—The maple. The schoolhouse. Bees. Chestnuts. Potatoes. Horses. Divide your sentences by a vertical line, so that the name of the person or thing you have written about shall stand by itself. That part of the sentence is the subject. Find the subjects of all your sentences.

THE PREDICATE.

Write sentences in which you tell something about each object named in the following list: football; rivers; children; gold; lions;

iron; oranges; books; silver; camels. Read the predicate of each sentence. Divide it from the subject by a vertical line.

PUNCTUATION.

Statements.—Give me some fact about each of the following things: Caterpillar; grapes; the sun; the dew; the leaves; the butterfly. Teacher writes sentences on the board as the children give them. What do we call each of these groups of words? A sentence. What is a sentence? What does each of these sentences do? Tells something. What kind of sentences are they? Telling sentences or statements. What does each statement begin with? What mark is placed at the end of each statement? Place a period at the end of every statement.

QUESTIONS.

1. How many petals has the apple blossom? 2. Do foxes like grapes? 3. Do you know why the aster is so called? 4. Why do the bees visit the flowers? 5. When do we have our shortest day? What does each of the above sentences do? It asks a question. What does each question begin with? What mark is placed at the end of each question? Have pupils ask questions about objects in the room and write these questions on paper.

THE GAME OF QUESTIONS.

In this game one player thinks about some object in the room. The others question him to guess what he is thinking about. All the questions must be such as may be answered by *yes* or *no*. After oral exercises have the pupils write questions. Write questions about these objects: your pencil; your desk; your book; your ruler; the weather; the lesson; recess; vacation. Choose some other pupil to answer each of your questions.

UNBROKEN QUOTATIONS.

1. The boy said, "The grapes are sour." 2. John said, "I have lost my knife." 3. "I have found it," cried Robert. 4. "What did you do all summer?" the ant asked. 5. "I sang all summer," the grasshopper replied. What are the boy's exact words in the first sentence? What are John's exact words in the second sentence? When anyone uses, in speaking or writing, the exact words of another, these words form a direct quotation. Every direct quotation is enclosed in quotation marks. What mark separates "the boy said" from the rest of the sentence? With what kind of a letter does each quotation begin?

A quotation: (1) begins with a capital letter. (2) is enclosed in quotation marks. (3) is separated from the rest of the sentence by a comma. If the quotation be a question or an exclamation the interrogation point or the exclamation point follows it. The punctuation mark following a quotation is included within the quotation marks. Write a sentence in which you repeat the exact words of another pupil.

DICTATION EXERCISE.

The Ant and the Grasshopper.

One winter day a hungry grasshopper went to an ant to get something to eat. She knew that the ant had worked all summer, and had stored away a good supply of food.

"Good morning, friend Ant," said the grasshopper.

"Good morning, neighbor Grasshopper," replied the ant.

"It is a cold morning," said the grasshopper.

"A very cold morning," answered the ant.

"I am very hungry," hinted the grasshopper.

"I am sorry," returned the ant.

Said the grasshopper, "I have no food."

"Why not?" asked the ant.

"I had no time to get any," replied the grasshopper.

"What did you do all summer?" the ant asked.

"I sang all summer," the grasshopper answered.

"Then you must dance all winter," said the ant. "Those who will not work should not eat."

HOW NAMES ARE WRITTEN.

My name is Helen Louise Watson. My sister's name is Kate Watson. My brother's name is James Dwight Watson. Look at the names which are written above. With what kind of a letter does Helen begin? Louise? Watson? Kate? James? Names of persons begin with capital letters.

WRITTEN EXERCISE.

Write your full name. Write the names of three pupils in your class. Write the names of three other persons whom you know. Write the names of three persons of whom you have read.

THE DAYS OF THE WEEK.

How many days has the baby to play? Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday. Read carefully and write from memory. Learn: The names of the days of the week always begin with capital letters. Make a sentence telling one thing that you did on Monday of last week. Write it. Do the same for each of the other days of the week.

NAMES OF MONTHS.

1. In March we find the pussy-willow. 2. The rains of April bring May flowers. 3. Roses blossom in June. 4. Water-lilies float on the ponds in July. 5. In August comes the golden-rod. 6. Asters bloom in September. 7. The leaves turn red and yellow in October. 8. The November winds blow the leaves from the trees. 9. During December, January, and February the flowers go to sleep. Read these sentences. 1. Which words begin with capital letters because they stand

at the beginning of sentences? Write these words in a column. 2. What other words begin with capitals? Write them in a column. 3. Can you discover from the second column another use for capital letters? The names of the months always begin with capital letters.

Names of Places.

1. The capital of New York is Albany. 2. Coffee is brought from Arabia. 3. London is the largest city in the world. Virginia, Richmond, Arabia, London are names of places. Each of them begins with a capital letter. Learn: Names of places begin with capital letters.

Two Rules for Capitals.

Copy carefully:

Star light, star bright,
First star I see to-night,
I wish I may, I wish I might
Have the wish I wish to-night.

Observe the capital I's. The word "I" stands for the person who is speaking. It is always written with a capital letter. Observe the capital letter at the beginning of each line. The first word of every line of poetry should begin with a capital.

Capitals.

1. The first word of a sentence should begin with a capital letter. 2. The names of the months should begin with capital letters. 3. The first word of every line of poetry should begin with a capital. 4. The names of the days of the week should begin with capitals. 5. The names of places should begin with capitals. 6. All names of God should begin with capitals. The words "I" and "O" should be capitals. The first word of a direct quotation should begin with a capital.

Abbreviations.

The abbreviations most commonly used should be taught. Such as: abbreviations of the names of the days and months, of mister, mistress, doctor, street, avenue, ounce, pound, pint, gallon, quart, inch, foot, yard, square, cubic foot, cubic yard, Brooklyn, New York, etc. Place a period after every abbreviation.

Contractions.

I am
I have
I will
what is
could not
it is
there is
where is
were not
did not
does not
has not
they will
do not
are not
have not
we will
she is
he is
you will
would not
he will
is not
who will
should not

Notes on Nature Study in 4B.

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$$\text{Flowerless Plants}—\begin{cases}\text{Ferns}\\ \text{Mosses}\\ \text{Mushrooms.}\end{cases}$$

FERNS.

Habitation.—Most ferns grow in low and rather shady places and need plenty of moisture. If taken from the shade into the sunshine, they wither. Some ferns, if carefully transplanted, and given plenty of water, will live for some time, in a shady place, in a house.

Parts.—a. root; b. stem; c. leaf.

a. *Root.*—Slender and hairlike at the end, growing in a cluster.

b. *Stem.*—Slender and weak, usually brown in old ferns, and green in young ones.

c. *Leaf.*—The leaf of a fern is called a "frond," and is composed of many leaflets arranged along a midrib. In some ferns, these leaflets are not entirely separate at the midrib; in others, each leaflet is borne on a little stem.

Color.—Ferns are bright green when young, and darker green as they grow older.

THE OBJECT OF A PLANT'S LIFE.

The object of a plant's life is to produce seed, and from them other plants. In the most common plants, seed is formed in the fruit, and the fruit comes from a flower.

Most plants bear flowers at some time in their lives, though some of the flowers are so small and dull-looking, that one must look closely to find them. Some plants, however, have no flowers. These are the ferns, mosses, and mushrooms.

The purpose of the flower of any plant, is to produce the seed, from which new plants may grow. The flowerless plants produce plants in abundance, though they have no seeds.

If you examine maiden-hair ferns, you will find that some of the leaflets have a stiff look caused by the turning under of the edges. Raise these edges, and small brown specks will be found under them. These are called "spore-cases," and in them is a fine brown dust, called "spores." It is the spores which grow, and produce the new plants. These spores are so small, that they can hardly be seen with the naked eye.

In some common ferns the spore-cases are covered with a brownish scale, instead of with the edge of the leaflet.

How to Obtain Spores.—If a ripe fruiting frond of some fern be dried between sheets of white paper, the spores will be found on the paper, in the form of fine dust.

How Spores Are Made Fertile.—The wind carries the spores away when they fall from the dried spore-cases, and they fall to the ground. There, when Spring again comes, they produce new plants.

$$\text{Mushrooms}-\begin{cases}\text{Poisonous}\\ \text{Edible}\end{cases}$$

The mushrooms are generally of an umbrella shape, consisting in the terrestrial species of a cap and stem, and one-sided, or semi-spherical where they grow on tree stumps.

The stem may be hollow or stuffed or solid. It varies in length and thickness. In some it is smooth and polished, in others rough and hairy.

Here, as in the case of the fern, the "spore" is the reproductive organ also. It varies in size, color, and form. It is found right below the cap, and can be removed to a glass slide, and studied with the microscope.

Many mushrooms are of great value as a food-product. The mushroom has a wide range geographically, being found in all parts of the world.

Great care must be taken to distinguish the edible from the poisonous species. The edible mushrooms are usually of a pleasant flavor and odor. The poisonous species have a very unpleasant odor, and produce a biting, burning, sensation on the tongue.

Many countries, especially France and England, grow a great amount of mushrooms for selling purposes. America, though in its infancy, is making great strides in that direction.

CULTIVATION OF PLANTS.

a. *Needs of Plants.*—Air, light, moisture, good soil—to furnish food, to hold the moisture, and to support the plant so that it may stand upright.

b. *Method of Propagating Plants.*—1st. By planting seeds (the most familiar way).

Experiment.—Select some seed, such as the bean, and plant it in a good moist soil, ten or fifteen days before the lesson. Plant others three days later, and others later still. This as a device for observing the stages of development. The day before the first lesson, put some beans to soak in warm water, so that the outer skin will soften, and the tiny germ separate itself from surrounding matter. As needed, dig up the sprouting seeds, to show how they change.

Observe—

1st—The germ and the surrounding matter upon which it will feed, as it grows.

2d—Which starts first, the root or the stem, and which way do they grow.

3d—What happens to the bean when the germ begins to grow.

4th—What becomes of the fleshy part of the bean.

5th—What becomes of the covering of the bean.

b. *Propagation by Slips or Cuttings.*—From some plants it is easier to produce new plants by slips or cuttings, than by seeds.

A slip is a bit of soft-growing stem, with one or two joints, and a few leaves.

If this slip is broken off and stuck in the ground, or in the water, it will produce roots and grow. The geranium will grow readily from slips.

The potato is part of the stem of the plant, and so when the farmer plants a part of the potato containing an "eye," he is planting a slip or cutting. (Potatoes will grow very well in pots.)

Many trees will grow from cuttings which are not soft-growing wood. The willow especially grows easily from any kind of a cutting, and it makes very little difference whether it is put in the ground right side up or not. All it needs is plenty of water.

c. *Propagation by Runners.*—The strawberry, after the fruit is ripe, sends out long branches, which run along the ground, and are called runners. Wherever a joint in a runner touches the ground, roots will form, and a new plant will begin to grow. After a time the runner dries up, and the new plant becomes independent.

The black raspberry produces long slender branches, which from their own weight bend over, and touch the ground. The tip of such a plant produces roots, and finally the new plant. The gardener very often bends such a branch over, and covers the end with earth, so as to assist in the growth of the new plant.

THE MAPLE.

The maple is without doubt one of our handsomest trees. No others can compare with them in the splendid coloring of their autumnal dress. By far the greatest brilliancy of color (in Autumn) exists in the sugar and silver maples.

SUGAR MAPLE.

The sugar maple is a tree of noble proportions, symmetrical, has an abundant foliage, and casts broad shadows. It sometimes reaches a height of from 100 to 120 feet. The leaf is bold, having generally five divisions. The notches between are very rounded. The greenish-yellow flowers droop from very slender hairy stems. They come in April or May, while the leaves are expanding. The seed is ripe in September. The trunk is most frequently divided, eight or ten feet above the ground, into three or four perpendicular branches. The leaf is smooth and dark green, but in Autumn turns to a yellow, red, or orange tint. The bark of the young tree is smooth and gray, but in old forms assumes a dark gray-brown hue, and becomes scaly and furrowed. The wood is yellowish-white and is extensively used in cabinet work.

In March, the farmer taps the tree for the sugar. Drip by drip comes the sweet sap into a pail at its side. This is kept up for about three or four weeks, when about twenty-five gallons have been yielded up. (One gallon of sap yields about three ounces of sugar.)

The sap is evaporated to a certain point in the production of syrup, and it passes through a process of still greater evaporation in the making of sugar.

SILVER OR WHITE MAPLE.

The silver or white maple has an extremely ornamental leaf, prettily divided and toothed. It is distinctly silver-white beneath and downy when young. Its five divisions are separated by deeply-cut, sharp notches, and its teeth are very variable in size. The flowers which precede the leaves are light yellowish, lavender in color. The seeds come in July. Their wings are large and set at right angles.

This maple is remarkable for its beauty. The branches are long and spreading, and very often drooping. It is most common along the river bank. It grows to a height of from ninety to one hundred and twenty feet, though generally it does not exceed fifty feet.

Several other forms are the Mountain Maple, the Striped Maple, and the Red Maple.

THE OAK.

The oak exists in great numbers, and there is a great variety, as to the shape of their leaves. It is a tree with a thick trunk and large spreading branches. The roots are very large and strong, oftentimes growing above ground. The trunk grows outward, each year's growth making a ring round the older wood. The oak lives for hundreds of years. The timber is very hard, and therefore is used for making things which must be strong or stand wear. Formerly nearly all ships were made of it, because it is strong and will keep out water.

When the tree is cut down the bark is stripped and sold to tanners. The acorn is the fruit of the oak tree, and when planted the oak will grow from it. There are three classes:

1st—The White, Chestnut and Evergreen-leaf Oaks—which bear acorns which ripen within one year.

2d—The Black and Red Oaks, whose acorns take two years to mature.

3d—Leather-leaf Oaks, whose acorns also take two years to mature.

By seeing the acorn, we can immediately identify the tree as an oak tree. The oak attains generally a height of from fifty to one hundred feet, and is used extensively in cabinet work.

THE STRAWBERRY.

The strawberry is a member of the great Rose family. It grows generally in cool and shady places. The stem never climbs nor coils, nor helps itself by tendrils. It is a vine, creeping or running along on the ground. This runner, which is slender and leafless, has a bud at the end. As soon as the bud touches the soil it sends roots into the ground, and leaves and runners above. A few strawberry plants will, in a short time, cover a large area.

Strawberries grow in clusters. The fruit is juicy, sweet and delicious. Like other members of the Rose family, the little (white) blossoms are fertilized by the bee, which carries the pollen from the stamen of one strawberry blossom to another, and leaves some of it on the numerous pistils as well. Soon after, the pollen reaches the seed boxes (separate in the strawberry). The flat cushion object which bears these pistils, begins to swell upwards and outwards and grows big, juicy and sweet.

THE APPLE.

Like the strawberry, the apple also belongs to the Rose family. The fruit grows on trees, and is very delicious. Vast tracts of land are devoted by the farmers to the cultivation of this fruit.

In April and May the white or pink apple blossoms appear. In the center are the stamens (like crooked pins), with their boxes of yellow powder (pollen) on top. There are also five pistils without the powder.

These are all set in a green cup which unites them. Within this cup is another, with five compartments, into which the pistils pass. The bee on its hunt for honey carries the pollen from one blossom to another. As soon as the pollen touches the pistils, it is sent down into the seed-box, and soon a complete change takes place. The five leaves fall, and a little green thing like a knob takes its place. This grows bigger and bigger, until at last you see the baby apple. Then the green fades away and gives place to the red and yellow apple.

THE PLUM AND PEACH.

Both these fruits, like the apple, belong to the Rose family. Although of different size, they are almost alike in shape. If cut open lengthwise, we find a stony center within, which is the kernel, and around this the soft fleshy outer part, so pleasant to the taste. The peach and the plum have their blossoms similar to the apple and strawberry, except that here there is but one seed-box and one pistil. This seed-box and its case is what grows into the peach or plum.

THE ROOT.

The root is that part of the plant which descends into the ground, sending its branches in all directions through the soil, for the purpose of finding food for the plant. Roots never bear leaves.

Root.—Grows downward from stem.

$$\text{Rootlets—}\left\{\begin{array}{l}\text{tiny hairs,}\\ \text{ends spongy}\end{array}\right.$$

Uses.—1st, holds plant in place.
2d, procures food for plant.
3d, in some, it acts as a storehouse.

Tiny hairs suck in the water. They also give out acid from spongy ends, which dissolves earth-food. Then they suck the dissolved food in.

Kinds.—Fibrous—looks like a bunch of threads, as bean.
Fleshy—fat and thick. As a food for man, carrot, beet.

Overground Roots.—Ivy, dodder.

The Stem.

Stem.—First downward from seed, then upward.
Root grows from stem.
Bears all other parts of plant—leaf, bud, flower, fruit and seed.

Kinds.—Erect, need no external help, especially the woody stems.
Others need support.
The Morning-glory will twist around any object, then grow upward.
The Water-lily is supported by the water.
The White Clover creeps along the ground, strikes root, and so gives rise to the new plant.

Stem may be smooth or hairy or thorny, round or square.

Small plants have green stems usually, while the larger ones are usually brown and woody. Most smaller plants die in winter, while in some the root only lives, and gives out a new plant the following summer. Woody stems, however, live in winter, but send forth new leaves and branches in summer.

The Leaf.

Complete Leaf— { blade always present, expanded portion.
cases, footstalk.
stipules, sometimes absent, leaf-like expansion. }

Leaf— { compound, more than one part
simple, one piece }

The leaf consists of—1st, fibrous matter } ribs.
2d, vascular matter }
3d, pulpy portion
4th, skin.

Function of Leaf.—1st. To absorb food from air. The carbonic acid is taken in. This goes on only in the light, and depends on the green matter in the leaf.

2d. Acts as a storehouse. The leaves of many plants, especially seed-leaves, store up food for future use.

3d. Acts as a breathing organ.

4th. When the water comes up from the roots, it passes out through the leaves. Often the air is thus kept moist in the neighborhood.

west of the Mississippi. The French colonized Louisiana, which later became Spanish, then French, and in 1803 was sold by them to the United States.

(7) *Benjamin Franklin,* who did more than any other patriot to unite the colonists, went to France and succeeded in getting that country to aid us. He has written an account of his own life, which shows how it is possible for a poor boy to become one of the greatest men in a nation.

(8) *Washington,* when only twenty-one years of age, distinguished himself by performing a difficult mission for the English governor of Virginia. Two years later he saved the wreck of the English army at Fort Du Quesne, now Pittsburg. When the colonists voted to resist England, he was appointed commander-in-chief of the American forces. Although England's army was much larger, he finally overcame it. This great and good man was the first President of the United States of America.

(9) *Paul Jones* was the first naval hero of the American Revolution.

(10) *Lafayette,* a Frenchman, gave his time and fortune to the patriots in their struggle for liberty. At the early age of seventeen, Congress appointed him a general in our army. A statue to him and Washington has been erected at 114th street and Morningside avenue, Manhattan.

(11) *Arnold,* the traitor, had fought bravely for the patriots up to 1778. His wounds made him unfit for active duty in the field, and he asked to be relieved. He was given command of Philadelphia, but acted so dishonestly that Washington publicly reprimanded him. He then plotted to get command of West Point and deliver it to his country's enemies. The plot failed, but, unfortunately, Arnold escaped and joined the British service.

(12) *Nathan Hale* sacrificed his life to benefit the patriots. He had been sent by Washington to visit the English camps on Long Island. He was captured and executed as a spy. There is a statue to his memory in City Hall Park, Borough of Manhattan, on which are his last words, "I regret only that I have but one life to give to my country."

(13) *Daniel Boone* should be remembered by every American as the pioneer of those who crossed the Alleghanies to build up the West.

(14) *Lewis and Clarke* explored the Great Northwest, following the Missouri River to its source and then the Columbia to its mouth on the Pacific coast.

(15) *Jackson* was the hero of the battle of New Orleans, in the Second War with England.

(16) *Perry* won a great naval victory on Lake Erie in the Second War with England.

(17) *Scott* was a hero of the War of 1812 and the Mexican War. He was still living at the beginning of the Civil War.

(18) *John Brown* tried to free the slaves in Virginia. He was caught and hanged.

(19) *Abraham Lincoln* was our greatest President. When it seemed as if our country would never survive the Civil War (1861-1865) he, aided by Grant and Sheridan of the Army and Farragut of the Navy, and thousands of other heroes, kept it together as "one nation, indivisible, with liberty and justice for all."

(20) *Dewey,* the hero of Manila Bay, gained his glorious victory without losing one man.

(21) *Fulton* invented the steamboat. Its first voyage was up the Hudson.

(22) *Whitney's* inventive mind gave us the cotton-gin.

(23) *Morse* was the inventor of the telegraph.

(24) *New York City,* whose population is almost four millions, is divided into five boroughs. Its length is more than seventeen miles; its width, nine miles.

Its harbor is one of the largest in the world, and this makes it a great center of foreign and domestic commerce. Vessels arrive daily from Europe, bringing various imports, and return laden with breadstuffs, petroleum, cotton and tobacco, which are exported in immense quantities to other parts of the world.

Nearly every manufactured article is also made in New York. Cotton and woolen goods from the New England factories are made into clothing and then shipped where needed. The coal and iron mines of Pennsylvania being so near, it is natural that iron manufactures should be abundant. This industry gives employment to thousands of New Yorkers.

Geography in 5B.

By E. A. Schuller, P. S 55, Brooklyn.

First Month—First Week.

UNITED STATES.

1. *Location.*—In the central and most valuable part of North America, being in the North Temperate Zone and extending from Canada on the north to Gulf of Mexico on south.

2. *Boundaries.*—

3. *Coast Line.*—Is very long and is indented with many bays, gulfs, and harbors. It is more broken on the Atlantic Coast than on the Pacific.

4. *Bordering Waters.*—Great Lakes, Atlantic Ocean, Gulf of Mexico, Pacific Ocean.

5. *Surface.*—Three natural divisions (a) the Pacific Highland; (b) Atlantic Highland and Plain, and (c) the Central Plain or Mississippi Valley. a. Pacific Highland includes: 1. Rocky Mountains, chief watershed of United States. 2. The Plains extend to Mississippi Valley. 3. Great Plateau including Colorado Plateau, Utah Basin and Plain of the Columbia. Bounded on east by Rocky Mountains and on west by Sierra Nevada and Cascade Mountains. 4. Pacific Slope. b. Atlantic Highland consisting of Appalachian Mountain system and Atlantic Plain. c. Mississippi Valley. All the land that is drained by a river system: Arkansas. River Basins—Mississippi (Ohio, Missouri, Red), Columbia, Colorado.

6. *Climate.*—Temperate, northern part cool, southern part warm. Rain falls plentifully in the western valleys enabling the people to raise grain and fruit in abundance. The moist eastern half of the United States has everywhere an abundant vegetation of forests, grasses, or cultivated plants. Much rain falls along the Gulf Coast. The plains east of the Rocky Mountains yield but a thin growth of grass and herbage. (a) Effect of climate on activities of people—In the west the people are farmers, also in the east. On the plains we find cattlemen; northern part, food-producing section; northeastern part, manufacturing district; southern part, cotton-growing section; Western Plateau section, grazing and mining; Pacific section, farming region. (b) Effect of climate on people—Warm climate, people are indolent; cool climate, people are energetic. (c) Effect of climate on animal life—Warm climates produce fiercer animals, beautiful birds, and all varieties of reptiles; cool climates produce fur-bearing animals.

7. *Relation of United States to other countries of North America.*—Most important. More progressive; richer, finer harbors and seaports, better climate.

8. *Resources of United States.*—Rich in metals, timber, pasturage, has fertile soil, numerous navigable rivers and lakes, long coast line with fine harbors.

9. *Industries and Occupations.*—a. Agriculture—Products: Corn, wheat, grain, potatoes, fruits, tobacco from north and middle parts, cotton, sweet potatoes, rice from south. b. Manufacturing—Products: Flour, meal, cotton, wool, farming and mining tools, machinery. c. Mining—Products: Gold, silver, quicksilver, coal, iron, lead, petroleum, etc. d. Stock-raising—Products: Cattle, sheep, hogs. e. Lumbering—Products: Pine, oak, cypress. f. Fishing. g. Commerce—Foreign and domestic: Exports—cotton, tobacco, beef, pork, petroleum, iron, silver, gold. Imports—tea, coffee, sugar, silk, linen.

10. *Status of People.*—The people of the United States are among the most progressive in the world. They have a better school system, have a greater commerce than most countries and they form one of the leading nations of the world.

SECOND WEEK.

Commerce of United States carried on by Atlantic Ocean, Pacific Ocean, Great Lakes, Mississippi River System, and the railroads. 1. Canadian Grand Trunk Line—connection across northern New York to Boston and Portland; New York Central and Hudson River and Erie; Pennsylvania Central and Philadelphia and Erie. 2. Union Pacific Line—San Francisco and Chicago. 3. Southern Pacific Line—San Francisco and St. Louis. 4. Northern Pacific Line—Chicago and Washington.

MIDDLE ATLANTIC STATES.

Location.—Middle part of Atlantic Highland. Include N. Y.; N. J.; Pa.; Del.; Md.; Va.; W. Va.

Climate.—Presents marked contrasts, the winters being long and severe in northern N. Y. and short and mild in Md.

Surface.—Three natural regions: 1. Atlantic Plain. 2. Appalachian Mt. system, Adirondack, Catskill, Blue Ridge, Alleghany. 3. Western Slope towards the lakes and Ohio.

Drainage.—The rivers of the eastern slope belong to Atlantic System. Those of the western slope to St. Lawrence and Mississippi systems.

Important Rivers.—Hudson, Delaware, Potomac, Susquehanna.

Water-ways.—The Erie Canal connects Lake Erie, Buffalo and the Hudson, Albany.

Value of water-courses to soil, navigation, and manufacturing industries.—The Atlantic rivers, excepting the Hudson, are navigable only through the tide-water region, being obstructed by rapids where they descend the slope. Those entering the lakes are generally not navigable. Where the rivers flow through mountainous country (near the source) the soil is poor; manufacturing is carried on. Farther south where the climate is milder and the rivers flow through less mountainous regions farming is carried on.

Resources.—Soil generally fertile, but the mountainous regions are better adapted for grazing than grain-growing. Extensive pine, cedar, cypress forests in tide-water region. Pine: leaves—needle-like. Uses—turpentine, tar, pitch, resin, etc. Timber—ship-building, etc. Cedar: long-lived. White cedar. Timber—will not rot easily—used for fences, shingles. Red-cedar: pleasant smell—clothes-chests, cabinet work. Cypress: Two kinds—one with spreading branches forming a flat top. The other with branches close to the trunk. Planted around tombs. Wood—yellow or reddish. Pleasant smell. Hard, durable. Used—cabinet work, ship-building.

Mineral Deposits.—In Pennsylvania, New York, New Jersey: coal, iron, copper, zinc; New York, salt, iron and zinc; Pennsylvania, coal and iron, petroleum; Maryland, coal. Fisheries—fresh water: trout, pickerel; salt water: cod, halibut, oysters, clams, bass, blue-fish.

THIRD WEEK.

Industries and occupations as related to physical conditions (sailor, fisherman, farmer, miner). Urban and rural occupations contrasted. Where soil is poor and people live near the coast the chief occupations are those of sailor and fisherman. Where the soil is fit for cultivation, we find the farmer. Where the country is mountainous, we find the miner. Rural pursuits: Agriculture, grazing, lumbering, fishing, mining, quarrying; manufacturing and commerce are urban pursuits.

In rural occupations the material is produced in its finished condition by cultivation. In urban pursuits, the raw material is made into various articles by manufacturing, and sent to different parts of the country by commerce. Productions: corn, wheat, oats, potatoes, fruits, tobacco, dairying, minerals, cotton, wool, boots, shoes.

Commerce.—Carried on by rail and by Erie Canal, Atlantic Ocean. Canadian Grand Trunk Line across northern New York and New England to Boston and Portland. New York City and Hudson River between Buffalo and New York. Pennsylvania Central between Philadelphia and New York. Philadelphia & Erie between Lake Erie and Delaware. Baltimore & Ohio between Cincinnati and Baltimore.

Exports.—Grain, flour, tobacco, wool, dairy-products and manufactures.

Imports.—Wines, cigars, teas, cutlery, shawls, laces, gloves, cloth, etc.

Chief Cities.—(a) N. Y.: Albany, capital; New York City, most important; Buffalo, distributing place. (b) Pa.: Harrisburg, capital; Philadelphia, manufactures; Pittsburg, coal and petroleum; Scranton, coal; Erie, lake port. (c) N. J.: Trenton, the capital; Newark, commerce, manufactures; Paterson, silk factories. (d) Del.: Dover, capital; Wilmington, machine shops. (e) Md.: Annapolis, capital; Baltimore, commerce; Cumberland, coal. (f) Va.: Richmond, capital, commerce and manufactures; Norfolk, seaport; (g) West Va.: Charleston, capital; Wheeling, coal, glass, iron.

Status and Customs of People.—Very prosperous, owing to natural resources. Caucasian in character. Public school system by which every child is compelled to learn.

Educational Institutions.—1. Columbia College, University of N. Y., N. Y.; 2. Vassar College, Poughkeepsie; 3. Military Academy, West Point; 4. Princeton Theological Seminary, Princeton; 5. College of N. J., Rutgers College, New Brunswick; 6. U. S. Naval Academy, Annapolis; 7. National Observatory, Smithsonian Institute, Washington; Barnard College, N. Y.; Cornell, Ithaca; Wells College, Aurora.

Scientific Advancement.—Electricity and its uses, Telegraphy, Steam and its uses, Engineering, Brooklyn Bridge, East River, Subway.

Literary and Artistic Attainments.—Numerous public libraries and museums: Art Museum, Museum of Natural History, N. Y.; Independence Hall, Phil. hist. relics; Central Park, Prospect Park, Fairmount Park, Phil.; Capital at Washington, Corcoran Art Gallery, Wash.

FOURTH WEEK.

NEW YORK STATE.

Location.—Between the Great Lakes on the west, and Atlantic Ocean on the southeast. This position, together with its natural facilities for water communication, enlarged by canals, has given the state its foremost rank in the Union for population, commerce, and wealth, and its title of the "Empire State."

Surface.—Lying between Appalachian Mountain system and Great Lakes, its surface presents marked contrasts. In the east are the Adirondacks, Catskills and the Highlands of the Hudson. Remainder of the state is chiefly in the basins of Lake Erie and Lake Ontario, and the valley of the Mohawk. Central part is a plateau.

Drainage.—Northern drainage is a part of St. Lawrence system flowing largely through the lakes, while the southern slope drains into the Atlantic through the Hudson, the Delaware, and the Susquehanna and into the Mississippi Valley through the Allegheny by way of Ohio River. Many tributaries. Abundant water-power.

Size and Importance.—See *Position.*

Resources.—Fertile soil, central position between Gt. Lakes and Atlantic Ocean, fine navigable rivers, grand harbor.

Industries and Occupations.—Agriculture, dairying, mining, lumbering, fishing, manufacturing, commerce.

Products.—Dairying, cheese, horses, butter, sheep, milk, cattle, eggs.

Agriculture.—Grain, hops, tobacco, broom-corn, fruits, wines, maple sugar.

Mining.—Mineral water, iron, salt, petroleum, granite, sandstone, bluestone, limestone, marble, slate.

Fishing.—Shad, white fish, blue fish, mackerel, oysters.

Manufactures.—Agricultural, implements, boots and shoes, carpets, carriages, cigars, leather, machinery, tobacco, chemicals, furniture, hardware, hats, hosiery, jewelry, lumber, soap, linen, woolen and wooden goods.

Commerce.—Foreign: See N. Y. commerce of Middle Atlantic States. Buffalo, coast trade. N. Y. State has the foremost rank in the Union for the extent of its commerce. Vast domestic trade carried on by means of—

Canals and Railroads.—Natural waterways afforded by Lakes Erie, Ontario and Champlain, Hudson River. 363 miles Erie Canal—Buffalo to Albany. 66 miles Champlain Canal—West Troy and Whitehall. Delaware & Hudson Canal—110 miles, connecting with Pennsylvania regions. Harlem Ship Canal—short passage from Hudson River to Sound. Of railroads, a network extends over the state and connects with through lines to Chicago, St. Louis & San Francisco, thus bringing the Pacific Coast and the Mississippi Valley into communication with the port of N. Y. Principal lines are N. Y. L. E. & W. R. R. and N. Y. C. & H. R. RR. The latter is one of the best equipped in country.

Manufacturing and Commercial Centers.—Forty-two cities in State. N. Y., commercial center; Buffalo, railway center; Rochester, manufactures flour; Syracuse, salt works and manufactures; Albany, capital, and manufactures lumber, and shipping port; Troy, shirts, collars, cuffs, cars, math. instruments manufactured; Utica, manufactures cotton and woolen goods, boots and shoes; State Lunatic Asylum.

Advantages of Location.—N. Y. on N. Y. Bay; Buffalo on L. Erie; Rochester on the Genesee; Syracuse, junction of several railroads; Albany, on Hudson; Troy, Hudson River; Utica, Mohawk River.

Social Development.—The state contains resources which utilized by an intelligent and progressive people make a prosperous commonwealth. Settled by such a people, the state has developed in all the essentials of civilization.

Educational Centers.—Well-devised system of public schools for support of which $30,000,000 expended annually. There are eleven normal schools in state and a normal college at Albany. Numerous universities and colleges.

Brooklyn Collegiate and Polytechnic Institute, Brooklyn; College of City of New York, New York; College of St. Francis Xavier, New York; Columbia College, New York; Cornell University,[1] Ithaca; Manhattan College, New York; St. John's College, New York; University of the City of New York, New York; University of Rochester, Rochester; Vassar College[1], Poughkeepsie; Wells College[1], Aurora.

Rivers.—Hudson, Mohawk, Niagara River, Genesee, Oswego.

Lakes.—The state abounds in: Middle western—Seneca, Cayuga, Oneida; Border lakes—Erie, Ontario, Champlain; Mountain lakes—Lake George, Schroon, Saranac, Chautauqua Lake.

Waterfalls.—Niagara Falls unsurpassed by any in the world. Genesee Falls at Rochester; Trenton Falls near Utica, Oneida County; Watkins Glen, Seneca Lake, High Falls, Esopus Creek.

Second Month—First Week.

NEW YORK CITY.

Review.—In southeastern part of N. Y. Composed of 5 boroughs, Manhattan, Bronx, Queens, Brooklyn, Richmond. Boundaries—north: Westchester Co.; east: Long Island Sound, Nassau Co.; south: Atlantic Ocean, Raritan Bay; west: Staten Island Sound, New York Bay, Hudson River.

Land Forms of the Neighborhood.—Ellis (immigrants); Bedloe's (Statue of Liberty); Governor's (Fort); Islands in New York Bay. Blackwell's (prisons and poorhouse); Ward's (hospitals); Randall's (House of Refuge); Islands in East River. Water Forms—East River, New York Bay, Long Island Sound, The Narrows, Atlantic Ocean, Jamaica Bay; The Harbor, water fronts, wharves. One of the finest in the world—sheltered by surrounding land—deep water clear to the land. Boats of any size can anchor there. More than 100 miles of water frontage are available. Constantly along the water front may be seen a forest of masts. At the wharves may be seen the loading and unloading of ships and steamers carrying away our exports and bringing in products of every clime. The greater part of the emigrants to U. S. land in this city.

Local Craft.—Steamers, tugs, barges.

Main Avenues and Streets.—Fifth Avenue running parallel with Broadway. Broadway running north and south, noted for its great hotels and splendid marble and iron buildings. Twenty-third Street running east and west from North River to East River, 42d and 59th Streets same. Places and monuments of interest: Wall Street, Bowery, Five Points, The Battery, Castle Garden, Bowling Green, Fraunces' Tavern, Trinity Church, 1696; burnt and rebuilt, 1790, 1840.

Routes of Travel and Transportation.—Steam ferries connect Manhattan with Brooklyn, Jersey City, Hoboken, Long Island City and

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[1] Elmira College, Vassar College, and Wells College are for female students exclusively. Cornell University admits both sexes.

Staten Island. Two suspension bridges connect Brooklyn and Manhattan. The elevated steam railways. Surface railroads.

Bridges, Tunnels, Parks, Points of Interest.—Brooklyn Bridge, East River Bridge, Subway, Whitehall St. to 190th St.; Central Park, Prospect Park, Navy Yard, East River; Coney Island, Brighton and Manhattan Beaches, High Bridge, Harlem Bridge, an iron drawbridge; Washington Bridge.

Population.—N. Y. City was settled at first by the Dutch in 1613. In 1664 the Dutch were forced to yield their claim to England. They were finally ousted by the Americans in 1783. At present nearly all nationalities are represented. Jewish quarter—Hester and Baxter Sts., Little Italy. Chinatown—Mott, Pell and Doyers.

Physical Conditions determining its growth and Importance.—Its magnificent harbor and its fine water front, and Erie Canal; its nearness to Europe, it is at seaward end of the great commercial route from interior.

Population of Boroughs.—(a) Manhattan Borough 1,900,000+, fifth in area; (b) Brooklyn Borough 1,100,000+, fourth in area; (c) Queens 150,000+, largest in area; (d) Richmond 67,000+, second in area; (e) Bronx 200,000, third in area; Van Cortlandt Park, Bronx Park, Pelham Bay Park. All these parks are larger than Prospect and V. & P. than Cen. Van Cortlandt Manor, headquarters in Revoluton for Germans—later Washington.

Queens—Astoria, College Point, Willet's Point, Engineer Corps of U. S. A.; Jamaica, State Normal School; Richmond Hill.

Richmond—St. George, landing place for Manhattan ferries.

Residential District.—Upper end of Manhattan Island.

Manufacturing and Commercial District.—Lower end of Manhattan Island (commerce), Broadway, Wall and other streets. Manufacturing District along the water front.

Great Mercantile, Financial and Manufacturing Concerns.—Wanamaker's, Arnold & Constable, Stern's, Altman's, Abraham & Straus, Loeser.

Public Works.—Water supply, highways, street cleaning, sewers, public buildings, lighting and supplies. May lay out new streets and parks, build new bridges and tunnels.

Public Schools.—Inferior to none—graded schools, evening schools, corporate schools, industrial, reformatories. College of City of N. Y., Normal College, Nautical College on schoolship St. Mary.

Public Institutions.—Hospitals, insane asylums, libraries, museums. Bellevue, E. 26th St.; New York Hospital, W. 15th and 5th Ave.; Roosevelt, 59th & 9th Ave.; Cooper Union Library, Carnegie Libraries, Tilden Library, 42d St. & 5th Ave.; Museum of Art, 84th St. and 5th Ave.; Museum of Natural History, 79th St. & 8th Ave.

SECOND WEEK.

NEW ENGLAND STATES.

Including Maine, New Hampshire, Vermont, Massachusetts, Rhode Island and Connecticut.

Location.—Northeastern part of U. S. between the valleys of St. John's River and that in which Lake Champlain and Hudson River lie.

Climate.—The summers are hot but short, the winters long and severe.

The Surface.—New England consists of three unlike regions, the coast plain and two highland regions separated by the Connecticut Valley. From the Hudson River and Lake Champlain eastward, the land gradually becomes higher to the summit of Green Mountains; then descends in a long, hilly slope to Connecticut River. East of the Connecticut the surface gradually rises again forming a broad swell of elevated land extending to St. John's River. Beyond this eastern swell is a narrow plain, becoming lower and more level towards the coast.

Drainage.—Most of the numerous rivers belong to the Atlantic System. They are navigable only in the coast plain, but the many rapids and falls afford abundant water-power. New England is remarkable for great number of its lakes and the beauty of its lake and river scenery. Among the streams only the Connecticut, Penobscot, Kennebec, and Androscoggin are of considerable length.

THIRD WEEK.

Value of Water Courses.—The slope from the mountains is short and steep. The drainage flows down this slope through many channels and affords abundant water-power for machinery. The soil is moderately fertile and the country is well wooded.

Resources.—Extensive forests occupy the middle and northern parts of Maine and New Hampshire, including pine and hemlock (to tan leather). Quarries of fine building stone, including marble and slate from Vermont, granite from Massachusetts and New Hampshire, and sandstone from Connecticut. Water-power for manufacturing—along the coast much attention is paid to fisheries. Most of the salted fish consumed in U. S. is packed in New England. Products of manufacturing are wood-pulp, cloth, boots and shoes, machinery, cutlery. Fisheries produce cod, halibut, haddock and mackerel. Industries and occupations: On the coast, shipbuilding, commerce and the fisheries; in the interior, farming, lumbering and manufacturing.

Products.—Animal (see resources—fisheries), horses and cattle. Vegetable (see resources—forests), corn, oats, hay, potatoes, orchard fruits. Mineral: Marble, granite, slate, sandstone. Manufactured (see resources).

Commerce—Immense foreign and domestic. Routes as affected by physical conditions are the rivers and fine harbors. Means of transportation and communication are afforded by the railroads, including the Canadian Grand Trunk connecting N. N. Y. and New Eng. with Boston and Portland.

Railroads.—Boston & Maine, Boston & Albany, Central New England, Central Vermont, N. Y., N. H. & Hartford, Rutland.

Exports.—Lumber, marble, granite, ice, manufactures and dairy products. Imports—breadstuffs, and provisions, coal, and raw materials, especially iron, cotton, and wool.

FOURTH WEEK.

Chief Cities.—Me.: Augusta, capital; Portland, largest city, fine harbor, commerce; Bangor, lumber market; Lewiston, cotton manufactured. New Hamp.: Concord, capital; Manchester, largest city, cotton goods manufactured here; Nashua, manufacturing; Portsmouth, seaport. Vt.: Montpelier, capital; Burlington, lake port; lumber trade, University of Vermont; Rutland, marble quarries; St. Albans, iron works. Mass.: Boston, capital, second commercial center, railroad terminus; Worcester, farming tools and machinery; Lowell, cotton manufacture; Cambridge, Harvard University; Fall River, iron works and cotton mills; Lynn, shoe factories. Rhode Is.: Providence, capital and largest city, commerce, cotton manufactories, seat of Brown University, next to Boston in population; Newport, capital, summer resort. Conn.: Hartford, capital, manufacture fire-arms and machinery; New Haven, largest city, Yale College, third city in size, famous for its elm trees; Bridgeport, sewing machines and carriages; Norwich, cotton and woolen mills; Waterbury, copper and brass wares.

Status and Customs of People.—People of New England have always been noted for their bravery. They are energetic and thrifty and are largely engaged in manufacturing.

Literary and Artistic Attainments.—Boston and Cambridge, literary centers. Many great American authors, such as Longfellow, Lowell, Holmes and Hawthorne lived near them.

Educational Institutions.—See *Cities.* Scientific Advancement.

CENTRAL STATES.

Location.—Mississippi Valley, middle and northern parts and region near Great Lakes.

Names.—Mich.; Wis.; Minn.; N. and S. Dakota; O.; Ind.; Ill.; Iowa; Neb.; Ky.; Mo.; Kan.

Climate.—The northern states of this section have long severe winters and short, hot summers. The southern states have short, mild winters and long, hot summers.

Surface.—Mostly level or gently rolling. In Dakota, Minnesota and Michigan, being more elevated, surface is rugged. Missouri and Kentucky, ranges of low mountains.

Drainage.—Every state of the group is bordered by one or more great rivers or lakes and many are crossed by smaller streams, navigable into the heart of the state. Value of water-courses to soil—Soil is generally very fertile, and where the lack of rain renders the land much less productive, trees grow along the streams. Value of water-courses to manufacturing industries—Saw mills established to which the logs are floated to be cut up into boards.

Large Rivers.—Mississippi, Ohio, Missouri. The rivers belong to the Mississippi and St. Lawrence systems. Lakes Erie, Huron, Michigan and Superior lie in the northern part of this section.

History—6A Grade.

By E. A. Schuller, P. S. 55, Brooklyn.

The Indians, Who Helped English.—The Cherokees formerly occupied Tennessee Valley, having 64 towns. Now are in Indian Territory. Can manufacture, have schools and missions and are rich. They number about 14,000.

The Creeks formerly from Florida, now in Indian Territory, are hostile to the whites. Utterly crushed by Gen. Jackson at Horse-shoe Bend. Schools and churches late in getting a footing with the Creeks. 25,000.

Helped French.—Choctaws formerly lived on shores of Gulf of Mexico. Treacherous. Flatheads. Have written constitution. National council of 40 members. Trial by jury. Schools and missions, Indian Territory. + Chickasaws, 25,000.

Seminoles from Florida, now in Indian Territory. 3,000. Steady, sober, industrious. Schools and churches.

Chickasaws lived east of Mississippi between English and French settlements. Sided with the English. Indian Territory. Have governor—laws, rich.

Other tribes, Apaches, Arizona, New Mexico. Most treacherous and blood-thirsty, live by hunting and robbery. Mountain signals which gather at short notice a large body of warriors.

Sioux—A number of tribes belonging to Dakota family. They are the principal tribe. Risen against whites many times. In 1876 Custer perished. 8,277 troopers. Farmers.

Môhawks, formerly N. Y., now in Canada. Prayer-book—Bible.

Mohicans, N. Y., now scattered. Given up their language, become citizens.

Chippewas lived around Lakes Huron and Superior, now Indian Territory.

Pueblos in New Mexico and Arizona. Semi-civilized. Still cling to old pagan beliefs.

DISCOVERY AND EXPLORATION.

1492-1607.

Causes.—Trade routes; mariner's compass; spirit of adventure.

Spanish.—Columbus, Vespucius, Balboa, De Leon, De Soto.

Dutch.—Henry Hudson.

English.—Cabots, Drake, Raleigh.

French.—Verrazano, Cartier, Champlain, La Salle, Marquette.

CHRISTOPHER COLUMBUS.

Born in Genoa, Italy, in 1435. Trained for the sea from childhood. Kind and loving disposition. In his poorest days he saved part of his money to educate his young brothers and to support his aged father.

Sailed with the object of discovering a shorter route to India. He discovered San Salvador, 1492. Discovered mainland of S. A.; four voyages.

VESPUCIUS.

Born in Florence, Italy, 1451. He entered the service of a merchant, but finally in 1497 sailed to America, touching at Canary Islands.

In 1499 made second voyage to Brazil to mouth of Amazon. Made second trip to Brazil and fourth voyage 1503. His description of new world suggested name America, which was given to S. A., then to N. A.

BALBOA.

Spaniard, born in 1475. Heard of a great western ocean, and in 1513 started in search of it. From a peak on Panama (Darien), he first saw the Pacific Ocean.

Seven years later Magellan entered that ocean on his voyage around the world. He found the waters so calm that he named it Pacific Ocean.

PONCE DE LEON.

A Spaniard who sailed from Porto Rico in search of the fountain of youth. He discovered Florida on Easter Sunday, 1512. Received the name in honor of the day and the quantities of flowers growing there. Later in an attempt to colonize Florida, the Indians resisted his attempt and in the fight De Leon received his death wound.

DE SOTO.

An adventurer who, after gaining riches in an expedition to Peru with Pizarro, was appointed governor of Cuba for life by King of Spain. Sailing for Cuba he landed on coast of Florida and explored the country. In 1541 he reached the banks of Mississippi River. In the following spring he died, and was buried in the river.

RESULT OF SPANISH EXPLORATION.

Spain held possession not only of the West Indies, but of Yucatan, Mexico, and Florida. Explorers had traversed a large portion of southern states and of Pacific coast. All this territory they claimed.

CABOTS.

The voyage of Columbus in search of the route to East India started John Cabot westward on same quest. In 1497 he took possession of Cape Breton and Nova Scotia. In 1498, Sebastian Cabot explored the coast of N. A., from Newfoundland to Florida. Famous map maker.

SIR FRANCIS DRAKE.

An English sailor who had gained a great reputation for daring deeds while only a young man. In 1577 he sailed through Strait of Magellan and claimed California. He tried to find a northeast passage to Atlantic, but was driven back by cold. Instead of going back as he had come, he determined to make a circuit of the globe, and having crossed the Pacific and Indian Oceans, and sailed around the Cape of Good Hope, he reached England in 1580, nearly three years after he had set out.

Raleigh.

Sent out and commanded several expeditions to new world, one of which in 1584 landed on Roanoke Island. When they returned to England, they gave such vivid descriptions of it that it was (Queen Elizabeth) named Virginia in honor of the virgin queen, Elizabeth.

Verrazano.

A Florentine, was the first navigator sent by the French to find the new way to the Indies. Sailing westward in 1524, he reached land near Wilmington, N. C. He coasted along the shores of Carolina and New Jersey, entered harbor of New York and returned, giving a fine description of the land.

Cartier.

French navigator commanded an expedition to explore the western hemisphere, and setting sail in 1534, touched coast of Newfoundland and discovered mainland of Canada, which he claimed for France. He sailed up St. Lawrence as far as Montreal. In a third voyage he built a fort near the present site of Quebec.

Champlain.

Samuel De Champlain, French governor of Canada, was born in 1567. He made three voyages to Canada. Founded Quebec on third, 1608. Discovered the lake which bears his name. Died in 1635.

La Salle.

One of greatest French explorers began his travels by going down the Ohio River in an attempt to reach China. He found that the southern streams emptied into Gulf of Mexico, so resolved to sail the length of Mississippi. Completed voyage in 1682. Took possession of river from
taries. Named Louisiana. Extended from Lake Itasca to Gulf of Mex-
its source to the sea and of all the country watered by it and its tribu-
ico and from the Alleghanies to Rocky Mountains.

Marquette.

A French priest in 1666 was sent to Canada. He founded a mission at Sault Ste. Marie, preached among the Indians and built a chapel for them. He heard of the Mississippi from the Indians and was sent by the governor of Canada to explore it. After sailing nearly to the mouth of the Arkansas and not wishing to be captured by the Spaniards, they pointed their canoes upstream. On a missionary trip to the Kaskaskia Indians he sickened and died.

French explored Great Lakes, Mississippi River, Central States, Canada and Acadia.

English explored Atlantic coast at various points and claimed it.

HENRY HUDSON.

In 1607, Henry Hudson embarked in a small vessel in search of a passage through America to the Indies (a northeast passage). He made three attempts and in his third giving up all hope of finding a northeast passage, he sailed south and discovered the river now bearing his name, and sailed up it 150 miles, 1609. In 1610 he discovered the strait called Hudson Strait, and passed into Hudson Bay, where he was cast adrift by his sailors.

Dutch laid claim to New Netherland, a region extending from Delaware River to Cape Cod.

Period of Colonization (1607-1733). 1. Causes of emigration. a. Misgovernment. b. Religion. c. Economic.—Desire for gold or land. d. Love of adventure. The country settled. Eastern coast of U. S., climate—temperate.

VIRGINIA.

Time—1607. Place—Jamestown.

Causes—To get rich without working. Thought they could pick up gold. Ordered by king to look for short way to Pacific.

Character of settlers—Lazy. Bad (most of them).

Self-government—Settlement divided into eleven boroughs. Each 2 representatives chosen by people. Written constitution.

Slavery—Negroes brought to the colony by Dutch in 1619. Could work in tobacco fields.

MASSACHUSETTS.

Plymouth, 1620. Massachusetts Bay Colony, 1628, at Salem.

Causes—religious freedom.

Character of Settlers—industrious, moral, thrifty. Schools. Pilgrims at Salem called Puritans.

Climate and Geography—Lies between Atlantic Ocean and N. Y. Highlands. Barren soil except in river valleys.

Government—Town meetings. Only church members could vote. Later the country was ruled by governor appointed by king.

Great Men—Bradford, Standish, Winthrop, Endicott.

RHODE ISLAND.

Time—1636. Place—Providence.

Causes—Roger Williams exiled from Massachusetts on account of religious views. Settled at Providence, where he could worship as he pleased.

Character—Industrious, good.

Climate and Geography—Country hilly, soil, rough and stony.

Government—Democracy limited to the heads of families. Unmarried men could not vote, but must bind themselves to obey the laws.

CONNECTICUT.

Time—1634. Place—Windsor (New Haven).

Causes—Religious freedom. Exiles from Massachusetts.

Character—industrious, good.

Climate and Geography—Low hills, valleys, and picturesque highlands. Temperate climate.

Great Men—John Winthrop, Hooker.

Government—In 1639, the court framed a "Body of Fundamental Laws." This was the origin of the first written, and purely Republican constitution made by Americans for Americans. It required that the governor should be a member of some approved congregation.

NEW YORK.

In 1626, the Dutch West India Co. sent out a colony under Gov. Peter Minuit. He landed on the island of Manhattan, where a trading post had already existed. He bought the island for $24 (14,000 A.). Now worth more than $1,000,000,000. At first called by Indian name Manhattan, but later New Amsterdam. Gave control to the Hudson River.

Great estates along the Hudson were held by prominent Dutch families, Van Rensselaers, Livingstons, Roosevelts, Stuyvesants.

Some huts were built on the island by traders in 1613.

In 1664 New Amsterdam came under British rule and was called New York after Duke of York.

Patroon, one who would bring 50 settlers to colony received land. Ruler of estate. Pay emigrant's passage. Stock his farm. Provide school master and minister.

NEW YORK.

Time—1614. The Dutch Republic gave a charter to a commercial corporation giving it the exclusive right to trade with the country called New Netherland. Includes the land from Cape Cod to Delaware Bay. 1626—New Amsterdam settled.

Causes—Establish trading posts.

Character—industrious, thrifty, moral—schools.

Climate and Geography—temperate, mountainous in east, Highland on south and west, plain rest of state.

First Dutch Governor, Peter Minuit; second, Wouter Van Twiller; third, Wm. Keefe; fourth, Peter Stuyvesant.

NEW YORK.

Largest city in U. S. Second largest in world. Great commercial, manufacturing and financial city. First capital of our republic. Constitution—first tried. First president inaugurated. Wheels of government first set in motion.

St. Paul's Church, where Washington worshipped. Chair in governor's room.

Fine situation. The steamboat (Fulton) 1807. The canal (Fulton) 1825. The railroad.

Emigrants must cultivate soil for ten years. Give patroon first right to buy produce. Patroon decided all disputes.

Customs—Santa Claus, Easter Eggs, Christmas Tree, New Year's Visits.

PENNSYLVANIA.

Time—1682. Place—Philadelphia.

Causes—Debt of $16,000 owed by Crown to Wm. Penn's father, paid by charter granting an immense tract of land to W. Penn. Named in honor of Penn's father.

Character of Quakers—Worshipped in silence, recognize no rank or form, aim to lead purely spiritual lives.

Government—Faith a necessary qualification for voting and office holding.

Iron mines opened—1720. Anthracite coal discovered accidentally at Mauch Chunk, 1791.

DELAWARE.

Time—1638. Place—Wilmington.

Causes of Swedish Settlement—Adventure. Causes of English Settlement. Dissatisfaction of the 3 lower counties on Delaware with the council of Pennsylvania.

Character—religious.

Government—Until Revolution Pennsylvania and Delaware remained under one government.

First state to accept the constitution and to enter American Union.

NEW JERSEY.

Time—1617. Place—Bergen. First English settlement at Elizabethtown, 1665.

Causes—Trade by Dutch.

Character—thrifty.

Government—Proprietary at first. Later governed by Crown—united with N. Y. under one governor but separate assembly. Thirty-six years later made separate province.

MARYLAND.

Time—1634. Place—St. Mary's.

Causes—refuge for English Catholics.

People—After Charles I was beheaded Parliament appointed three commissioners to reorganize Maryland. Three-fourths of colonists were Puritans. They determined to root out Papists. An assembly (Government) was summoned from which all Catholics were excluded. Protection was refused Catholics. Finally religious toleration was restored. Government at first proprietary; then provincial.

GEORGIA.

Time—1732. Place—Savannah.

Cause—Refuge for debtors.

Great man—James Oglethorpe.

Character—For ten years every settler was to have an allotment of land free. Estates descended in male line.

Government—Proprietary—trustees. Provincial.

13th Colony—Carolinas. 1663—Albemarle Colony. 1680—Charleston.

THE STRUGGLE FOR EXISTENCE.

(1. *Against the Indians.*)

a. King Philip's War—1675-1676.

In 1675, Philip, chief of the Wampanoogs, began a terrible war against the colonists. While Massasoit lived he remained friendly to the whites. King Philip believed that if he did not exterminate the white man, then the white men would exterminate them.

Colonists had purchased Indian Territory until they had crowded Philip's tribe into two or three narrow necks of land projecting into Narragansett Bay.

Philip formed an Indian league and the savages began a sudden attack on towns in southern and western Massachusetts.

Loss on both sides very heavy.

1. More than one-half towns in Massachusetts burned.
2. One-tenth of all fighting men of New England had either fallen in battle or been captured.

After Philip's death, Indians became discouraged, their power was broken and southern New England never again stood in fear of these once powerful tribes.

b. Massacre in Virginia.

Bacon's Rebellion.

People of Virginia in deplorable state.

1. No homes of their own.
2. No Assembly that represented them.
3. Taxes were enormous.
4. Could get scarcely anything for tobacco exported.

Still their lives were safe.

In 1676, Indians suddenly rose and began massacring the inhabitants. The most terrible attack. People begged Gov. Berkeley's help, but useless. Then a wealthy planter named Nathaniel Bacon raised a force and took decided action against the Indians. His influence was so great with the colonists that Gov. Berkeley was obliged to allow the people to elect a new Assembly.

c. Pequot War.

In 1637, a legislative assembly met at Hartford and resolved to make war on Pequot Indians, who threatened to destroy the white settlers. Hartford, Wethersfield, and Windsor contributed 90 men led by Capt. John Mason. The Pequots had a fortified village near the present town of Mystic. The little army accompanied by Indians hostile to Pequots, and with some help from Massachusetts attacked the enemy in their stronghold, and setting fire to their wigwams, literally burned them out.

The blow was a terrible one to the Pequots. From that time they were hunted like wild beasts until in a few months the tribe was practically destroyed.

The ferocious Pequots were determined to drive the English from the rich valley of Connecticut. Destruction of Pequots secured forty years of peace to New England settlers and opened the way to rapid settlement of Connecticut.

Early French Wars (1689-1754).

In Europe, French and English had long been enemies. The desire of each was to get possession of America. It did not make them any better friends.

In 1689, war broke out between the rival colonists. With intervals of peace that contest lasted over seventy years. In Europe war between the two countries lasted longer.

First War—8 years—1689-1697.

Frontenac, the French governor of Canada, sent an expedition of French and Indians to attack the colonies on and near the Hudson. They secretly marched in mid-winter from Montreal, to a small village named Schenectady, 17 miles west of Albany, burned it, and massacred most of inhabitants.

In a similar attack on Haverhill, 33 miles north of Boston, the savages met their match. An expedition from Boston captured the French fort at Port Royal, Arcadia (Nova Scotia), but it was returned to the French the next year (1691).

Second War—1703-1713.

A party of French and Indians attacked Deerfield (northwest of Massachusetts, near Connecticut River) and reduced the place to ashes. On the other hand, the New England colonists recaptured Port Royal, which they named Annapolis (Queen Anne). They also undertook an expedition against Quebec which ended in shipwreck, and terrible loss of life.

When peace was made, 1713, Great Britain not only kept Annapolis, but got possession of Arcadia, which the English now named Nova Scotia.

Third War—1744-1748.

During this contest New England gained a remarkable victory in the capture of Louisburg, Cape Breton Island, a stronghold of great importance to French.

Results: Broke up nest of French pirates at Louisburg and so put an end to their capturing and plundering Massachusetts fishing vessels.

2. It inspired New England people with the faith that they could beat the French.

Fourth War—1754-1763.

History of the 6B Grade.

GRACE E. HUNT, P. S. 55, Brooklyn, N. Y.

FIRST MONTH.

First Week.

The Young Republic.

THE Constitution went into effect in 1789 and accomplished four chief objects:

(1) It gave the nation a head—the President of the United States, whose duty it is to see that the laws are executed.

(2) It gave Congress power to raise money by taxation, to carry on and to defend the government.

(3) It gave every citizen of the United States equal rights in all the states, with liberty to buy and sell in all parts of the country. Thus entire freedom of trade was established throughout the Union.

(4) It established the Supreme Court of the United States, to decide all questions and disputes about the powers of the national government.

Later a "Bill of Rights" was added; ten very important amendments secured further protection to the people. The Revolution made us an independent people. The Constitution made us a united people—the American nation.

The New Republic and Its People.

Thirteen States formed a new nation. (1) Delaware, 1787; (2) Pennsylvania, 1787; (3) New Jersey, 1787; (4) Georgia, 1788; (5) Connecticut, 1788; (6) Massachusetts, 1788; (7) Maryland, 1788; (8) South Carolina, 1788; (9) New Hampshire, 1788; (10) Virginia, 1788; (11) New York, 1788; (12) North Carolina, 1789; (13) Rhode Island, 1790.

George Washington chosen first president. Inaugurated President of the United States in New York, then the capital, April 30, 1789.

About four million (4,000,000) people at this time; in one hundred (100) years it had increased to sixty-three million (63,000,000). People were settled mainly along the Atlantic Coast; they clung to the sea which was then principal route of commerce; few people inland. The western boundary at this time was the Mississippi River. People had no railroads nor steamboats; used sailing packets. When one started on a voyage, all depended on wind and weather. Stages were used between the larger towns; six days from Boston to New York; two or three from New York to Philadelphia. Travelers made journeys in their own coaches. Most comfortable mode of travel was horseback riding; two people often traveled with one horse, "traveling ride and tie:"

Chief towns on the sea-coast, except Lancaster, Pennsylvania. It was not possible to have a large trading town very far away on account of bad roads. Interior trade was carried on in great wagons, drawn by six or eight stout horses; ten thousand (10,000) running out of Philadelphia, which made it the principal town of North America.

Not much letter-writing at this time. Mails carried mostly on horseback, no regularity, no speed, high price. Newspapers published weekly.

Leading towns and cities had schools, no public schools as we have them now. Oldest college was Harvard at Cambridge, Mass. (1636); then William and Mary College, at Williamsburg, Va. (1693); Yale, New Haven, Conn., came next (1701).

Very little literature, art, or science at this time. Why? Benj. Franklin became famous in Europe and in America by his great discovery that lightning was electricity; fine thinker, writer.

TOPICS DISCUSSED.

(a) Election and inauguration of Washington.
(b) Population of the country—distribution.
(c) Modes of travel—water, stage, private carriage, horseback.
(d) Mail carrying.
(e) Colleges.
(f) Literature, art, science.

Telegraphs and telephones were unknown; no gas, no kerosene oil. Lamps were almost unknown; houses lighted with tallow candles. Poorest people burned a wick in a vessel containing a little grease, or lighted pieces of pitch pine on the hearth. Stoves for heating were unknown, cooking stôves not even dreamed of; wood only fuel used in houses. Blacksmiths burned charcoal.

Few mines—few manufactures. Wool or flax was prepared and spun at home, then woven into cloth. Greater part of people were farmers who rarely spent money.

Four million (4,000,000) people; one-seventh negro slaves who were in every state except Massachusetts and Maine. Few in the Northern States. Seven-eights of all the slaves were in Maryland, Virginia, two Carolinas. These were the lands of tobacco, indigo and rice culture.

Oldest son usually inherited land—English custom. Great planters lived like nobles; accustomed to manage public affairs. Virginia—"Mother of Presidents." Poor people had little chance of securing an education. Southern States richest—most populous; little town life, but much gaiety in plantation houses.

Gentlemen wore hair long, powdered white. Ladies wore hair high. Bright colors worn; rich fabrics.

TOPICS DISCUSSED.

(a) Lighting and warming of houses.
(b) Prevalence of slavery.
(c) Society.
(d) Fashionable dress.

Second Week.

The Attitude of Foreign Nations toward U. S. from 1789 to 1812.

When the English government acknowledged the independence of the United States in 1783, there remained still in the hands of English troops certain military posts in the Indian country which were within the territory of the United States. In violation of the treaty, the English government retained these posts and by the encouragement given to the tribes, kept alive the Indian War.

There was also much anger in America against England on account of the illegal seizure of American vessels by British cruisers. England claimed the right to impress her own subjects when found on ships of other nations. It was very exasperating to Americans to have their ships stopped on the high seas and searched, and their citizens forced to serve in the navy of a foreign power.

France was now engaged in war with England, and as France had helped the United States to gain its independence, the French expected the assistance of America in their new war with England. Washington wisely kept this country free from alliances with either of the contending nations.

Washington's Administration.

First President—1789-1797—Two terms.

I. Formation of Cabinet, 1789.

(a) Thomas Jefferson—(1) Secretary of State; (2) Author of Declaration of Independence.

(b) Alexander Hamilton—(1) Secretary of Treasury; (2) Fought a duel with Burr at Weehawken, N. J.; (3) Author of the financial plan by which the United States paid its debts.

(c) Gen. Henry Knox—(1) Secretary of War; (2) Leader of cavalry in the Revolution.

(d) Edmund Randolph—(1) Attorney-General.

II. First Census, 1790.

Four million (4,000,000) people. Population has doubled about every twenty-five years; moved steadily westward. In about a century it had reached sixty-four million (64,000,000). At the present time about eighty million (80,000,000). Lived near Atlantic sea-coast. Census—counting people every ten years.

III. First United States Bank, 1791.

IV. First United States Mint, 1792.

Both supplied the country with a kind of money which, unlike that in circulation before, could be used throughout the states. Immense help to business men. Opening of the Mint began our decimal system—clear, simple, convenient. Jefferson—author.

V. Political Parties.

Federalists.

(1) voted for adoption of Constitution.
(2) believed that country needed a strong central government; one able to make its power respected at home and abroad.
(3) wished to see the government conducted with some pomp and ceremony, after the English style.
(4) strong in the cities.
(5) among people of wealth.
(6) among those devoted to commerce.

Anti-Federalists.

(1) voted against Constitution.
(2) thought a strong central government dangerous to the liberties of the people.
(3) wished chief power to be exercised by different states, and as much as possible in the hands of the people.

Anti-Federalists were called, first Republicans, then Democratic-Republicans, lastly Democrats. They were especially strong with agriculturists and people in the Western part of the country.

Both parties united to elect Washington.

Washington kept himself aloof from political parties and tried to be impartial. But his preference for a strong central government attached him rather to the party called Federalists than to its opponents.

Third Week.

VI. Invention of cotton-gin.

In 1793, Eli Whitney invented the cotton-gin, by which a thousand pounds of cotton in a single day could be cleaned by one man, instead of only one pound. This had a great influence on the industry, wealth, and political history of the South.

The old method of cleaning made cotton very expensive, and the rich only were able to buy it. Now, by the new process, many million pounds could be exported. Because of this invention many cotton mills for the manufacture of cloth were started in New England. Whitney's invention.

TOPICS DISCUSSED.

(a) Stimulated production of cotton.
(b) Made it a leading industry.
(c) Increased our exports enormously.
(d) Increased our wealth.
(e) Caused building of cotton-mills at the North.
(f) Maintained slave labor.

VII. Whiskey Insurrection, 1794.

When Washington was serving his second term, the government was in need of money. It levied a tax upon the manufacture of whiskey, which the producers refused to pay. Revenue officers who were sent to collect the tax, were treated roughly. The producers proceeded to defy the law by using arms.

When Washington heard of this, he sent fifteen thousand (15,000) men to enforce the law. When the whiskey producers saw this immense army advancing, they prudently dispersed, believing it was better to pay the tax than to lose their lives. No further trouble.

Admission of three states: Vermont, 1791; Kentucky, 1792; Tennessee, 1796.

Fourth Week.

John Adams' Administration.

Second President—1797-1801—One term.

I. Trouble with France.

The French were very angry, because we did not side with them in their war with England. They captured our merchant vessels, sold them openly in French ports, and insulted the statesman sent by us to France to represent the United States.

After awhile, the French authorities made demands, threatening war unless we bribed them. Pinckney, our representative there, was very indignant at this remark, and replied, "Millions for defence, but not one cent for tribute." Adams gave a full report of these demands to Congress, and instead of using the names of these Frenchmen, substituted X, Y, Z. Hence this is known as the "X, Y, Z" Papers. This aroused the whole country, and Pinckney's words were re-echoed throughout America. They were ready to fight at any cost. War soon broke out, and our sailors, singing the new American song, "Hail Columbia," which had just been written, fought and captured several French vessels. When Napoleon Bonaparte came into power in France, 1799, he speedily made peace.

"Hail Columbia" written.

II. Alien and Sedition Laws.

The "Alien Law" gave the President the power to banish any alien or foreigner from the country, whose influence was dangerous to our country and to our own good. He never enforced the law.

The "Sedition Law" undertook to punish persons who should speak, write, or publish anything, false or malicious, against the President or the government of the United States. Several persons were heavily fined under this last law, and at least one was imprisoned.

These laws were made because several American newspapers were edited by foreigners, or by men who sympathized with France and were anxious to force us into war with England. Several state legislatures denounced these laws as dangerous and contrary to the Constitution. Both laws soon passed out of existence.

III. Washington's Death.

During the excitement caused by these unpopular laws, Washington's death occurred at Mt. Vernon, Dec. 14, 1799. The whole country united to do honor to his memory. Bonaparte ordered public mourning for him in France, and the commander of a British fleet ordered his flags to be put at half-mast.

SECOND MONTH.

First Week.

Jefferson's Administration.

Third President—1801-1809—Two terms.

I. Removal of the Capitol.

The first capitol was at New York, where Washington was inaugurated. Then it was removed to Philadelphia; then to Washington, which was ridiculed as a "palace in the woods." Washington, for whom it was named, had himself chosen the ground for the city ten years before. Many people preferred Philadelphia, thinking Washington was too far west.

II. Louisiana Purchase.

Just before the close of the war between England and France in 1763, France ceded Louisiana, with New Orleans, to her ally, Spain. In 1800, Napoleon Bonaparte forced Spain to give it back to France.

France owned the land from the Mississippi on the east to the Rocky Mountains on the west, and from the Gulf of Mexico on the south to Canada on the north. It was called Louisiana in honor of King Louis of France.

Bonaparte, who was then about to engage in war with England, was afraid that when it did break out, the English might send over a fleet, and take Louisiana from her. For that reason she was willing to sell it to the United States, as the money would help France to fit out armies against Great Britain. In 1803 Jefferson bought the whole territory of Louisiana for fifteen million (15,000,000) dollars. By so doing, we enlarged our territory and had complete control of the Mississippi River. This territory contained one million (1,000,000) square miles—six hundred million (600,000,000) acres, so you see it doubled the area of the United States.

The "Purchase of Louisiana" secured to us four most important advantages: (a) It prevented England from getting control of it. (b) It prevented any disputes with France about the territory. (c) It gave us the "Great West." (d) It made us masters of the entire Mississippi River, with the city of New Orleans to boot.

III. Lewis and Clark Expedition.

In 1804, Jefferson sent out an expedition under Lewis and Clark to explore the new country. They started from St. Louis, where a "Great

Fair" is now in progress in celebration of the "Louisiana Purchase," and worked their way up the Missouri in boats until they reached a tremendous cleft in the rocks where the river bursts through. This point is twelve hundred miles from St. Louis and it had taken them a year to reach it.

Then making their way across the mountains, they found the head waters of a stream flowing westward. They floated down until they reached a broad and still more rapid river. Down this they drifted until they came to its mouth, when they discovered the Pacific Ocean. It was the Columbia River down which they had sailed, and this discovery gave us our first claim to Oregon.

Lewis and Clark returned in 1806 to St. Louis, having been absent two and a half years; they had traveled over eight thousand miles.

This expedition (a) gave the people of this country their first idea of the immense extent of Louisiana; (b) showed its unlimited natural wealth; (c) enabled the United States to claim the Oregon territory, which Capt. Gray had entered, but Lewis and Clark had really explored.

IV. First Steamboat, 1807.

In 1807, Robert Fulton launched his newly invented steamboat on the Hudson River. First trip was from New York City to Albany, a distance of about one hundred and forty-four miles in thirty-six hours. Up to that date all the trade and travel upon the river had been either by sailing vessels or by row-boats. Men called the steamboat "Fulton's Folly;" it was a rude affair with uncovered paddle wheels and clumsy machinery. It was named the Clermont.

In a few years Fulton's great invention made a complete change in modes of travel. Steamboats were put on the Ohio, Mississippi, and the Great Lakes. The first ocean steamship started from Savannah, Ga., and crossed the Atlantic.

Fulton's invention (a) had a most important influence in helping to open up and to settle the western part of the United States; (b) increased commerce; (c) facilitated traveling—quicker time—more convenient.

Robert Fulton is buried in Trinity Churchyard—opposite Wall St., New York City.

Admission of Ohio, 1803.

Second Week.

Madison's Administration.

Fourth President—1809-1817—Two terms.

I. War of 1812. Causes. Second War with England.

When Madison became President, England and France were still fighting and our ships were forbidden by Act of Congress to trade with either country. At first Congress passed the "Embargo Act," which forbade the departure of any vessel to a foreign port, but the people of New England were so troubled by this that it was changed for a "Non-Intercourse Act," which simply forbade them to go to France or England.

The President was anxious to re-open commerce. The British minister at Washington gave Madison to understand that England would allow our vessels to sail the seas unmolested, if we would promise to send our wheat, rice, cotton, fish, and other exports to her and her friends, but refuse them to her enemy, France. The agreement was made. America did her part, and there was much rejoicing, but England broke the agreement.

Then Napoleon, Emperor of France, wished to exact a promise from us. He had seized and sold hundreds of our ships, because of our refusal to help in his contest with England. He now agreed to let our commerce alone, provided we would bind ourselves not to send any of our produce to Great Britain, but would let him and his friends have whatever they wished to buy.

Napoleon's offer was a trick to deceive us and to get us into trouble with Great Britain. We agreed to his terms. He did not keep the agreement and the ill-feeling between England and America was made more bitter than ever.

The Henry Letters.—A man named Henry declared that the English government in Canada had employed him to endeavor to persuade the New England States to withdraw from the Union and join themselves to Canada. He produced a package of letters as proof.

Madison paid Henry fifty thousand (50,000) dollars for the letters, but they were a fraud and Henry was a villain. His letters made our hatred of Great Britain more intense.

Causes of the War of 1812.

1. England persisted in capturing our vessels.

2. She persisted in taking our seamen and forcing them to enter her service and fight her battles.

Her excuse was that they were "British subjects," who had deserted and entered our service.

Congress declared war in 1812.

Admission of three states: Louisiana, 1812; Indiana, 1816; Mississippi, 1817.

Third Week.

Constitution and Guerriere.

We had been beaten on land, but victorious on the sea. England had a thousand war ships; we had twelve, one of which was the "Constitution," in command of which was Capt. Hull.

While cruising off the coast of Nova Scotia, he fell in with the British, "Guerriere." The fight began without delay, and in twenty minutes the Guerriere had surrendered, a shattered, helpless, sinking wreck. "Constitution" had heavier guns, more men. Out of fifteen such battles, we won twelve.

Capt. Hull brought his prisoners to Boston and "Old Ironsides," the "Constitution" was hailed with delight. Hull and his officers were given a great feast in Faneuil Hall; Congress voted him a gold medal for the victory, and gave his men fifty thousand (50,000) dollars in prize money.

(c) Perry's Victory on Lake Erie.

In 1813, Perry had gone to the shore of Lake Erie, and with the help of a large number of ship carpenters, had built from green timber, five vessels; afterwards he added four more. With this small fleet he captured the British fleet, carrying more guns and more men.

Before the fight began, Perry hoisted a flag over the "Lawrence," bearing the words, "Don't give up the ship!" During the battle the Lawrence was literally cut to pieces. Perry saw that if he remained where he was, he certainly would be defeated. Then he jumped into a boat and ordered the crew to pull for the "Niagara." The British shot at them, but the boat reached the "Niagara," and Perry gained the victory. He then sent a despatch to Gen. Harrison: "We have met the enemy, and they are ours." This victory gave us control of Lake Erie, and the British abandoned Detroit.

Fourth Week.

(d) Capture of Washington.

The British had blockaded all our ports along the Atlantic coast, and had plundered and burned a number of towns. Later in the summer, they entered Washington, creating a panic there. President Madison fled. After the British had eaten the President's dinner, they paid a visit to the House of Representatives. They applied a torch to the building, and soon the capitol was consumed, and also other public buildings.

A recent English historian says of that deed: "Few more shameful acts are recorded in our history; and it was the more shameful that it was done under strict orders from the government at home."

(e) "Star-Spangled Banner" Written.

The British attacked Baltimore, but it was guarded by Fort McHenry. All day and all night, the enemy's ships hammered away with shot and shell at the fort. The people were very anxious to know if the fort would hold out.

When the sun rose the next morning, the question was answered, "Our flag was still there." The British had given up the attack, and were sailing down Chesapeake Bay—Baltimore was safe.

"The Star-Spangled Banner" was written by Francis S. Key. Key was a prisoner at the time on board of one of the British men-of-war. All night long he watched the bombardment of the fort. By the flash of the guns, he could see our flag waving over it. In the morning when the mist had cleared away, he found it was "still there." His feelings of delight found expression in the song, which he hastily wrote in pencil on the back of an old letter.

Always stand when "The Star-Spangled Banner" is either being played or sung.

Exports and Imports.

By C. S. HASKELL, Late Dist. Supt.

THE following request was sent to the agents of twenty steamship lines whose steamers ply between New York City and foreign ports: In the interest of Commercial Geography, will you kindly send me a list of ten leading articles of export and ten of import carried by your steamers? Nearly every line responded, and below is given a summary of the answers:

HOLLAND-AMERICAN LINE.

New York and Rotterdam.

Exports.—Grain, lard, bacon and hams, salt beef, machinery of all kinds, agricultural implements, flour, syrup, oleo oil, lubricating oil.

Imports.—Wood pulp, mackerel and herring, cement, dextrine, salted hides, dry hides and skins, cod liver oil, camel hair, wire rods.

CUNARD LINE.

New York and Liverpool.

Exports.—Grain, bacon and hams, fresh meat, canned meat, hardware, woodenware, flour, lard, oil, apples.

Imports.—Steel, lace and silks, grapes, raisins and figs, cotton goods, woolen goods, earthenware, rugs and carpets, velvets, artificial flowers.

HAMBURG-AMERICAN LINE.

New York and Baltic Ports.

Exports.—Grain, provisions, oleomargarine, syrup, cotton, flour, bran, quickmalt, lubricating oil.

Imports.—Mineral wax, earth wax, cement, dextrine, potato starch, skins (goat, calf, horse), rapeseed oil, glue stock, farina.

FRENCH LINE.

New York and Havre.

Exports.—Grain, agricultural machinery, electrical machinery, lubricating oil, cotton, cotton seed oil, lard and oil cake, California dried fruit, bicycles, typewriters.

Imports.—Champagne, silks, sardines, wines, dress goods, millinery, porcelain, hides, cotton goods (embroideries, curtains, laces), gloves.

WHITE STAR LINE.

New York and Queenstown.

Exports.—Grain, provisions, fresh meat, machinery, cotton, tobacco, flour, oil, oil cake, cattle.

Imports.—Dry goods, chemicals, mahogany, salt, cannel coal, machinery, hemp, wool, skins, steel.

SLOMAN LINE.

Between New York and Rio de Janeiro.

Exports.—Flour, rosin, wire, lard, railroad material, codfish, lumber, oil (including kerosene, lubricating and cotton seed), butter, paper.

Imports.—Coffee (almost entirely), sugar (occasionally), hides (occasionally).

RED "D" LINE.

Between New York and Curacao and Maracaibo.

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ARROW LINE.

Between New York, Leith, and Dundee.

Exports.—Grain, flour, oil cake, paraffin scale, cheese, lubricating oil, lard, tobacco, cotton, hardware.

Imports.—Jute, jute cloth, paper stock, preserves, carpeting, whiskey, potatoes, coal tar pitch, herrings, chemicals (for fertilizing purposes).

ATLAS LINE.

New York and West Indies.

Exports.—Flour, meal, corn, provisions, machinery, hardware, lumber, oil, coal, dry goods.

Imports.—Coffee, cocoa, hides and skins, sugar, pimento, rubber, tobacco, woods (fancy and dye), tropical fruits, rum and lime juices.

THINGVALLA LINE.

Between New York and Christiania.

Exports.—Wheat, corn, barley, flour, syrup, oleo oil, lard, butter, leather, agriculturals.

Imports.—Hemp seed, rags, wire rods, rape oil, potato flour, wood pulp, iron, sugar, cement, fish.

Commercial Geography—The Steam and Railroad Routes of the World.

THOMAS O. BAKER, Principal P. S. 128, Brooklyn.

TO interest the children in routes of travel one should first try to have them see the need for railroads and steamships. To teach them the numerous railroad and steamship routes, without interesting them in the causes that lead to the establishment of these routes, is to rob them of the lively interest which is so essential to learning.

The teacher of commercial geography should be a student of political economy. He should be well versed in the world's history, and especially in the history of commerce. He should also be able to lead the children toward a fair comprehension of the development of commerce.

The class is not ready to study the routes of commerce until the necessity for commerce has been made clear. In this preparation the natural conditions, such as climate, mountain ranges, kinds of soil, the adaptation of soils, coast lines, etc., etc., must all be made clear. Then the pupil begins to comprehend why certain railroads are where they are. He discovers that certain localities are best adapted to the production of the raw materials, while others are adapted to the manufactures of these raw materials into wearing apparel, machinery, etc. This, he should learn, leads to the division of labor, and the division of labor is the prime cause of commerce. If every man provided himself with his needs, there would be no commerce, that is no exchange of commodities. The exchange of commodities demands a means of transportation. It also demands the cheapest means of transportation, so that the cost is not so great as to prohibit the use of the articles. For this reason the cheapest forms of transporting are resorted to. Steamships with a carrying capacity of five times that of the sailing vessels are built. Double and quadruple tracks are laid, so that freight trains will not waste so much time on side tracks waiting for each other, and for passenger trains. Time becomes money, and the quick transit puts the goods into circulation, which insures their consumption and therefore a demand for more. These rapid means of transportation make possible the bringing of perishable commodities from one part of a country to another, and so cheaply that the poor, as well as the rich, can enjoy the fruits of California, Florida and Cuba, and even of more remote places.

These great railroad systems permit mankind to do in each section of the world that for which it is best fitted. We want to impress upon the minds of the pupils that the natural conditions brought the railroads and steamboats, and these helped to develop the country. When we have done this they trace the great steamship routes and the connecting trunk railroad lines, and at the same time become acquainted with the productions of the different countries.

To trace these routes without "why and wherefore" would be as interesting as a trip across the continent in a closed car with all the shades drawn and never a glimpse of what is passed en route.

The work in physical geography has, in a measure, prepared them for their comprehension of the established routes of travel. They soon discover that climate affects commerce. They find that all the principal routes are in, or connected with, the North temperate zone. This should be emphasized. Pupils see that the large cities are in this zone. Let them discover the reason.

Allow the pupils to discover why the commerce along the Atlantic, in both Europe and America, is greater than along the Pacific, that is, good harbors are essential to commerce.

The labor saving devices must not be lost sight of. They, too, are responsible for the large increase, first in manufacture and second in transportation.

In the tracing of ocean routes the subject of winds, tides and currents must be studied. Certain ocean routes are fixed by natural conditions. Have them discover why a sailing vessel bound from New York to Australia sails east almost to the coast of Africa, then back to South America, then down the coast to Rio Janeiro and thence to Australia.

Have pupils procure time tables, with maps. Tell them to find the best route to some foreign country or city, working out by the time table the route, stopping places, railroads and places of interest.

Ask your pupils the best route from New York to New Orleans, or to San Francisco. Ask them where they would go to take the Pennsylvania railroad for Denver. Also make tours to Europe and around the globe. A young Miss of fourteen informed me, when asked where she would go to take the train on the Pennsylvania Railroad, that she thought it best to go to Chicago. I was surprised to learn that she thought Chicago very near New York. Our pupils know too little of location and distance of cities.

The object of studying the steamship and railroad routes is not to teach these for themselves, but to make the pupil acquainted with the location of cities and countries. A large map is essential to teach the different routes. It might be well to have each pupil supplied with an outline map of the world. All could trace the same routes of travel, or different routes could be assigned to groups of children. The results could then be traced on a large wall map.

Impress upon pupils the need of knowing the starting and stopping places. Have the regions of commerce marked, and for what noted.

Have reasons assigned for the commercial centers. In other words make commercial geography a study of live interest.

From the various steamship and railroad companies one can secure all the time tables needed. These not only give time tables, but are full of valuable information. The maps, too, are superior to those found in the geographies, because much larger. The circulars furnished by many of the railroads of the United States contain a large map of the United States. On these are marked the railroads in such a way as to make a lasting impression.

The folder of the Southern Pacific Steamship lines is better than any text-book in geography. In it the pupil will find a description of New Orleans and Cuba, also of his own city, New York. He will find much more. The scope of vision at sea, the meaning of the "bells," watches, port, starboard, etc., is given, knots and miles are compared. A map is given showing route by steamship from New York to New Orleans, and by rail from there over the Southern Pacific to San Francisco. There is also given a complete map of the United States, so that the pupil obtains a clear mental image of this route. He turns to the sailings and the time tables and discovers how much time is required to make the different trips, and the distances. The attractive folder makes the subject interesting, something which is lacking in too many of the geographies.

Take Cook's, or Raymond and Whitcomb's Guide, and an endless number of routes can be traced. The different steamship and railroad lines of the world are given. Tours to Europe and other continents are outlined, as well as trips around the world. In tracing these the pupil fixes in his mind the line of travel, and so becomes familiar with the principal routes of travel. Have pupils find out why certain cities and countries are visited.

The possibilities in teaching geography by means of routes of travel are great, and in the hands of an enthusiastic teacher will be interesting and valuable.

I know that I am supposed to be giving suggestions for commercial geography in the 7B grade. I should like to urge teachers of all grades to make use of routes of travel to teach geography. With the folders of the Mexican Central and the Mexican International railroads in the hands of the pupils, they will learn much more of the geography of Mexico than from the ordinary text.

Another folder of value is that of the Trans-Siberian railway. In it the pupils learn the distance from St. Petersburg, or Moscow, to Peking and Port Arthur, and the time needed to make the trip. They trace the route on the map, and read the description of the country. They read the following in the circular: "Great misgivings are generally entertained as to the severity of the climate of Siberia. As a matter of fact the cold is never so intense as to cause any inconvenience to passengers. This is due to the great stillness and dryness of the atmosphere prevailing during the winter. It is true that rivers in some parts freeze from surface to bottom, but the snowfall is comparatively slight, which denotes a total absence of humidity, and for that reason the cold is never acutely felt!" What a text for a lesson in physical geography!

In this same circular is a description of a steamer built to break through the ice of Lake Baikal. This steamer can plough through ice four feet thick, carrying 25 fully loaded cars and 150 passengers.

The Oriental Steamship Company's circular is attractive and instructive. Let me quote one paragraph from it. "Except in trading with the Dutch, in a small way, Japan was an isolated empire until Commodore Perry of America called in 1854 and made a treaty with the Shogunate; under this and succeeding treaties Yokohama was opened to the world as a trading port in 1859."

In this same folder is an excellent map of the world, also of Japan, showing the main steamship lines between Japan and the United States, and between Japan and Europe via the Suez Canal.

It has been my purpose to point out ways and means of teaching routes of travel and of commerce rather than naming and tracing these routes.

Advertising, to-day, is almost a fine art or science. Millions are spent upon circulars of information. Anyone can possess himself of these circulars for the asking. In them are beautiful cuts, the majority being from photographs. The descriptions are rarely overdrawn, for the simple reason that it is hardly possible to exaggerate the beauties of our own and foreign countries.

The boy who reads the circulars describing routes of travel will learn far more geography than he will from a text-book. He makes excursions, as it were, with little cost and great profit. He fixes the location of cities and countries, and also acquires an excellent idea of distance. He learns of the climate, the people and the productions. He becomes possessed of that which fits him for any life. Next to travel itself the studying of routes of travel educate one more than any other means.

A Study of Julius Caesar.

Ella K. Jelliffe, P. S. 70, Brooklyn.

"First reading for general conception; some portions read by teacher for the purpose of creating a right atmosphere; other portions read aloud by pupils in class; minor portions read by pupils at home.

"Second reading for the more careful treatment of important parts, the aim being to bring about an appreciation of the beauty of the selection rather than to accumulate a fund of information concerning words or allusions.

"Third reading for effective oral rendering of those parts of the selection which makes special appeals to the pupils' imaginations and sympathies."—Syllabus.

Study the Dramatis Personæ as you are introduced to them. Learn to know a little about each one as he or she is presented, just as you would about acquaintances or friends. Consult a Roman history for the time of Cæsar, for the office of tribunes, senators, etc., for the feast of Lupercal—when, where, and why celebrated for the Battle of Philippi, and other historical facts. See "Plutarch's Lives" for Cicero, Pompey, Brutus, The Death of Cæsar, etc.

The first act serves as introduction. In the first scene we get the Roman atmosphere and spirit, and a glimpse at the condition of the government and the feeling of different factions. In the second scene we are presented to all the great personages of the story—the hero, whose spirit rules the play and from whom it takes its name; his wife, Calpurnia; his friend, Mark Antony; Brutus, the tragic and real hero of the drama; his wife, Portia, and his brother-in-law, Cassius; Cicero, the senator; Casca and Decius, who with Brutus and Cassius were the principal conspirators against Cæsar. The third scene depicts the troublous times with their superstitions; also the political disaffection of many of the leading men. The character of Brutus is well worth studying. He is high-minded—"The noble Brutus." "He sits high in all the people's hearts," "This was the noblest Roman of them all." He is sensitive—note Act III., Scene I. "Yet see you but our hands. And this the bleeding business they have done. Our hearts you see not; they are pitiful; and pity to the general wrong of Rome," and in the quarrel scene with Cassius, "O, Cassius, you are yoked with a lamb," and "When I spoke that I was ill-tempered, too." He is tender-hearted. He cannot hurt Portia by keeping his secret from her; he bids his boy, Lucius, sleep on when he really needs him; Act II., Scene I. And again in Act IV., Scene III., speaks tenderly to him for blaming him for losing a book—"Bear with me, good boy, I am much forgetful." "Gentle knave, good night; I will not do thee so much wrong to wake thee." He is ideal; he thinks he can save the old republican form of government for Rome by killing Cæsar, who aims to be emperor. He sacrifices his love for his friend to the higher love for his country. He has nothing to gain for himself by joining the conspiracy against Cæsar; he thinks only of Rome and believes he is acting for her best welfare. He cannot see that yesterday has gone and that to-morrow is at hand—that the old traditions of Rome are past and the empire a thing accomplished either with or without Cæsar. So with all his purity of purpose and nobility of character, he is not far-sighted—he lacks political wisdom.

Act II. shows the development of the plot and brings out the characters and purposes of the conspirators more and more clearly. Cassius, in direct contrast to Brutus, is shown a far-sighted, intriguing politician, jealous of Cæsar and full of selfish purposes. In Scene II. Cæsar is shown at his worst, weak, vacillating, superstitious, possessing only the phantom of his past greatness. In Scene IV. Portia's sweet womanliness is shown in all her nervous excitement for the welfare of her husband.

Act III. shows the designs carried out. The conspirators press forward to plead for the pardon of Metellus Cimber's brother. Trebonius draws Antony, Cæsar's friend, away. Cæsar refuses the pardon, justifying his act, and then they fall upon him and kill him. The people and senators flee in alarm. Antony returns and has speech of Brutus, and apparently makes friends with the conspirators, the while he is grieving over Cæsar's murder and plotting to outwit the murderers. He gains permission from Brutus to pronounce a funeral oration over Cæsar's body, much to the shrewd dismay of Cassius, who would not have permitted it. In Scene II. we have the speech of Brutus—honest, sincere, generous, and then he leaves the field to Antony, and this statesman and orator, with infinite tact and skill, gradually wins the fickle populace away from their allegiance to Brutus, reads Cæsar's will, and takes their hearts by storm. Brutus and Cassius flee. Octavius and Lepidus and Antony unite.

Act IV. brings on the crisis. Scene I. portrays the characters of the triumvirs, Antony, Octavius and Lepidus, and their plans to circumvent Brutus and Cassius. Scene II. presents the camp near Sardis, the tent of Brutus, and the unfriendly meeting of Brutus and Cassius. Scene III. gives the famous quarrel scene between Brutus and Cassius, with its magnificent character-study—Brutus, calm and imperturbable in his righteous anger; Cassius beside himself with rage and wounded self-love. Both show generosity of spirit. Brutus, when he says, "When I spoke that I was ill-tempered, too," and Cassius, when he exclaims, with deep remorse, upon hearing of Portia's death, "How 'scaped I killing when I crossed you so?" The different views with regard to meeting the enemy are advanced, the will of Brutus prevailing, to march to Philippi and meet the enemy there, instead of waiting for the enemy to approach them, as Cassius wished. Then comes the kindly interview between Brutus and his boy, followed by the appearance of Cæsar's ghost.

Act V. is the fall of events,—the defeat and death of Brutus and of Cassius. Scene I. gives a view of the plains of Philippi; the armies meet: the generals parley and separate to prepare for battle. Scene II. The field of battle. Scene III. The battle goes on; defeat for Cassius and Brutus. Cassius dies by the sword of his servant, Pindarus. Scene IV. Still the battle wages, Brutus encouraging the remnant of his army. Scene V. Brutus requests his servants to kill him. They all, as well as his old friend, Volumnius, refuse to do him this service, but at last his servant, Strato, holds his sword, while Brutus runs on his sword, exclaiming as he does so, "Cæsar, now be still; I killed not thee with half so good a will." Octavius and Antony enter and do honor to the virtue and nobility of Brutus, Antony exclaiming, "His life was gentle, and the elements so mixed in him that Nature might stand up and say to all the world, 'This was a man!'" And Octavius ordered him to be buried like a soldier and from his (Octavius's) own tent.

Biography is a most interesting, if not the most interesting, study in literature. History itself is from one point of view only a series of biographies of eminent men. In this reading of Julius Cæsar, the pupils might be encouraged to study the characters of Brutus, Cassius, Antony, Casca, Messala, etc., to keep a note-book, jotting down noteworthy sayings of each, under proper headings, as the reading progresses, these notes to be gathered afterwards and arranged topically to form compositions. (See outline previously given for the character of Brutus; find corroborative illustrations of those characteristics and of others discovered by pupils themselves). One 8 B class prepared illustrated notebooks of this drama —getting pictures of the Roman officers and buildings from old histories, geographies, magazines, etc., and pasting them in a scrap book, the cover of which bore an original design and fancy lettering, and underneath the pasted picture appropriate quotations from the play were written. A logical order and sequence of events was preserved throughout the book, and some of them were pleasing mementos of the reading lessons of the term, while all bore evidence of care and thought. A few showed original and pretty drawings, illustrating some favorite quotation or character.

The text-books used in the schools contain excellent notes and the pupils must learn that these notes are necessary to a proper understanding of the drama and that they may not be ignored. There is no royal road to learning. One who is too indolent to look up the meaning of a word or of an illusion cannot hope to become a scholar—he misses the best in life who looks no deeper than the surface.

A Few Suggestive Questions on "Julius Caesar."

1. Who wrote "Julius Cæsar"? When and where did he live? From what source did he get his plot? (North's translation of Plutarch.)
2. Who was Julius Cæsar? When and where did *he* live?
3. Name the persons introduced in Act I., Scene I. Who were tribnes? How did Shakespeare and others of his class regard the working people? How is this shown?
4. What was meant by Cæsar's triumph? By the feast of Lupercal?
5. Name the characters and their relation to each other, as given in Act I., Scene II.
6. Explain the allusion to Æneas and Anchises in 111 to 115, Act I., Scene II.
7. Whom do you like the better—Brutus or Cassius—upon this first introduction to them? Why?
8. What kind of man was Casca? (Read Scenes II. and III., Act I.)
9. Who was Cicero—what part does he play in this drama?
10. Explain the meaning of the simile in lines 157 to 160. To whom does it refer?

11. How does Cassius regard Cæsar? How does Brutus look upon him? (See Act I., Scene II., lines 90 to 130; and Act II., Scene I., lines 10 to 27.)

12. Describe Portia, the wife of Brutus. Act II., Scene I., lines 233 to 309.

13. Name the chief conspirators against Cæsar. Use a descriptive adjective for each one. Act II., Scene I., 86 to 220. Find out what became of each.

14. What was the name of the boy who waited on Brutus? What kind of master was Brutus to him? Illustrate your answer by quotations.

15. Name Cæsar's wife. Compare her ways and speech with those of Portia. Act II., Scene II.

16. How does Cæsar conduct himself in this play—like a brave man or a great man? Had he been both brave and great? Tell some of his brave acts. How old was he at the time of the conspiracy against him? What was the state of his health? Did he know that the majority of the Romans clung to the old form of republican government? Would that have an effect on his will-power?

17. How do you think the conspirators felt when Cæsar said to them:

> "Good friends, go in and taste some wine with me;
> And we, like friends, will straightway go together."

20. And who was Artemidorus? What was the purport of the paper he meant to hand to Cæsar? Why did he not give it to him?

21. Who else tried to warn Cæsar? What was his message? Explain it.

22. Which one of the conspirators first approached Cæsar? What did he say? How did Cæsar answer?

23. Who was it that frightened the conspirators when they first entered the Senate-House?

24. Who first stabbed Cæsar? Who last? What did Cæsar exclaim?

25. Describe the scene between Antony and Brutus after Cæsar's death.

26. What favor did Brutus grant Antony against the will of Cassius? Why was it unwise?

27. Give an abstract of the speech of Brutus, explaining Cæsar's death to the multitude. How did it affect the people?

28. Learn Antony's speech by heart (first part) and declaim it. Which was the greater (or the better) speech? Its effect?

29. What were the provisions of Cæsar's will for the Roman citizens? What did the citizens resolve to do, in consequence?

30. Did Anthony mean to excite them so? Verify your answer by a quotation. Act III., Scene II., lines 261, 262.

31. Who were the members of the triumvirate? What afterwards became of each one of them?

32. What state of affairs is shown in Scene III. of Act III.?

33. What was the cause of the quarrel between Brutus and Cassius? Act IV., Scene III., lines 1 to 12 and 75 to 80. What particular word of Brutus rankled in Cassius' heart most bitterly? Lines 114-116.

34. Quote a line from the play which shows Cassius at his best. Perhaps 150 of Act IV., Scene III.

35. Select the sayings of Brutus which you like best and give your reasons. Construct his character. Is it good or bad? How did he use his influence?

36. Build up a biography of Cassius from his words and deeds. Tell what kind of a man you think he is.

37. Which is your favorite character in the play?

38. Where was the great battle between the triumvirs and the conspirators fought? Locate the place.

39. Give the reasons for and against the march to Philippi, as advanced by Brutus and Cassius.

40. Why is the play called "Julius Cæsar"? (His *spirit* dominates it; moreover, his name was well known to the Londoners before whom the drama was to be played.)

41. Give a short description of the battle of Philippi. (See History of Rome.) Its generals, its date, its result.

42. What became of Cassius? of Brutus?

43. Describe the character of Antony. How did he and Octavius treat their captives? Quote their last speeches concerning Brutus.

44. Explain the following words: knave, trophies, marry!, an, be factious, fantasma, cautelous, sooth, on Pompey's basis, Hybla bees.

45. Express clearly:
"Be not out with me."
"As proper men as ever trod upon neat's leather."
"The complexion of the element."
"One incorporate to our attempts."
"To lock such rascal counters from his friends."

46. Select the five best speeches in the play—tell who made them and under what circumstances.

47. Give briefly the substance of each act.

48. What other plays of Shakespeare have you read? How many did he write? How old was he when he wrote this one? (37?)

49. Have you read Plutarch's "Lives"? If not, read his "Lives of Cæsar, Brutus, and Antony," and compare the prose statement of facts with this play of Shakespeare's

50. WRITE AN ACCOUNT OF SHAKESPEARE'S LIFE.

Among the prose pieces suggested for 8B are The Great Debate (Webster and Hayne); Lincoln's "Gettysburg Address," and "Second Inaugural." The Gettysburg Address is often chosen, and not only for reading but for memorizing. It is beauty unadorned and "A thing of beauty is a joy forever." No words are necessary concerning it; just learn it and recite it not with lip alone but with heart and soul. Combine a history lesson with it, of course; know when it was written, where read, and for what purpose. Correlate its study, too, with language work. Have a biography of Lincoln written, bringing in his great deeds and speeches—his great services to our country; have, also, a synopsis of the Civil War with date, a few important events, and several of the great leaders with their services, the causes and results of the war.

If there come not a deeper thrill of patriotism, a larger sense of responsibility, a stronger response to "Whatsoever is pure and lovely and virtuous," after the study of this address, then there is something wrong with human nature.

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New York Teachers' Monographs
PLANS AND DETAILS OF GRADE WORK
DECEMBER, 1904

Reading in the 1A Grade.

By CAROLINE G. KEMBLE, P. S. 53, Brooklyn.

THE Course of Study requires the children of the 1A Grade to recognize promptly and pronounce correctly at least three hundred words, and to be able to read short sentences and paragraphs containing these words from the board and later from a primer. These three hundred or more words may be divided into two classes: (1) those taught as a whole (sight method), and (2) those taught by combining sounds or sounds and a word (synthetic method).

SIGHT WORDS.

The form of these words is recognized at sight. The words need not be short, but they must suggest meaning. Necessarily, the sight word list will include a great many nouns and verbs. These words are to be taught by objects, pictures, and actions in order to impress them upon the child's mind. In selecting these words, it is best to take those with which the children are most familiar. What better words than *mamma* and *baby* could be chosen for the first day the little ones are gathered together? These words the children are ready to talk about, and they interest them immediately. Suppose, the first morning, the teacher intends to present the word *mamma.* A picture of mother and child is placed in the front of the room. This picture attracts the children, and the teacher can easily draw them into conversation by asking them: "Who awakened you this morning? Who washed and dressed you? Who prepared your breakfast?" After the children have answered these questions, the teacher can ask: "What else does mamma do for us?" The children will immediately feel at home, and be eager to tell what "my mamma" does for me. After this little talk the word is written on the board, and several children are allowed to point to it. By this time they are tired, and the teacher suggests that they close their eyes tight, put their heads on their desks, and go to sleep. While the children are napping the teacher writes mamma on several boards. In response to the teacher's "Wake up, who can find the word *mamma?*" many little hands will go up, and the children will be delighted to go to the board and draw the crayon through the word *mamma* until each one has been found.

In the afternoon the teacher may ask, "What do you see in mamma's arms in this picture?" Immediately some child will tell her that mamma has a baby in her arms. To the teacher's question, "How many little folks have babies at home?" the children will begin to tell her all about "our baby." After the conversation the word *baby* is written on the board and many children point to it. The word is then alternated with ***mamma.*** The children find the word that says *baby,* and draw a line through it. After a line has been drawn through each word that says *baby,* they may be erased one at a time. The new word is then added to the old one on the board and on large cards, and they are given constant repetition.

It is well to have a picture of each noun labeled in large letters as it is taught. These will help to associate the idea with the written word. The pictures also help to decorate the room and make it look cheerful.

The following list of sight words are familiar to most children, and begin a good vocabulary:

an ail all am and apple are ark ask at ate Alice Anna asleep basket back bed birthday breakfast be big bird blue book box boy by can cat come corn cap coming city dove dolly dishes daisy do does doll ear eat egg Fannie father flag flower from feed found get girl give good green gave garden got good-bye grandma grandpa glad has have he her him home house hope I if ill in ink is it John kitty know like little letter look lily love Lulu lion make me mother mamma mice mouse milk Minnie my Mr. Mrs. no not nest nut name of old on only or papa picnic party please pig pear play pretty read • red run ride rose squirrel saw soon sick saucer school see sell she some so time thank table teapot take tell teacher the they this them that there to too tree under us want what who we with write wash wake woods while yellow you wheat.

PHONETIC WORDS.

From this list, simple words: as, an, ail, all, am, and, ark, ask, at, ate, ear, ill, in, ink, is, it, old, or etc. may be chosen. These words combine easily with the simple sounds and afford the necessary drill in articulation.

an—fan man ran Nan Nan's pan.

ail—pail tail hail fail sail sails ails.

all—fall tall hall ball wall call calls.

am—Sam ham sham shams hams.

and—sand hand land band.

ark—Mark Mark's lark park hark bark.

at—hat fat mat rat Nat pat bat bats hats rats chat chats.

ate—Kate Kate's mate mates.

ask—mask asks.

ear—near hear fear ears shear shears rear.

eat—seat seats neat beat.

ill—will Will mill rill fill hill kill kills hills chill chills.

in—win tin bin pin pins tins chin chins into.

ink—pink pinks link.

is—his

it—sit sits hit bit

old—hold sold told holds bold mold cold.

or—for.

us—thus.

ing—sing sings singing willing filling looking playing doing asking.

ight—fight light night might right sight.

s—books wants cats looks likes.

s (soft)—sees flags boys fathers girls apples dolls plays flowers dogs knows mothers mother's trees letters reads goods sells comes birds nests.

In presenting a new phonetic word, the teacher may give it in a sentence, as: When the girl was warm she used a f-an—When Frank's mother told him to hurry, he r-an—This little girl is Nan—That hat is N-an's —I see some milk in a tin p-an. The children will tell the word and the teacher will write it on the board. Then several children will give sentences containing it. When the list has been completed it may be erased. The teacher can write *an* on the board, and ask the children to tell words that rhyme with it.

Sounds.

Some of the sounds (1) easily made, (2) easily prolonged without alteration in character, and (3) common to many words in the child's vocabulary are the following: f, m, r, s, h, w, n, p, t, b, l, z and s (soft), k and e, sh, ch, th, (a, e, i, long), o, u, ing, and ight.

Most of these twenty-five sounds can be presented to the children in little stories. Take the first sound *f* for instance. Tell the children about Fannie visiting Frank in the country. Because Frank was a good boy, his father had given him many pets. Frank was proud of his pets, and so took Fannie to see the chickens, ducks, etc., and at last brought her to the barn, where the old mother cat made a home for her little kittens. How the mother did not want company that morning! And when Fannie took one of her little kittens in her arms, she became very cross, curved her back, opened her mouth and said f-f-f.

The children will enjoy first listening to the story and then reproducing it, and the sound *f* will be impressed upon their minds. The sound may then be written on the board and several children point to it, and tell what the cross kitty said. The teacher must be careful to see that each child says the sound perfectly. The large card with *f* written on it may then be presented to the class, and some of the children may hold it up and tell the class what the angry cat said.

The next day the teacher can review the story. After it has been told she can tell them how Frank proposed that they go down to the pasture. The old cow was standing near the fence. When Frank stroked her head she showed her love for him by saying m-m-m. *M* may then be alternated on the board with *f*, and the children are allowed to find the sound the good old cow made. The sound *m* may then be added to *f* on the board and on cards, and they are given constant repetition.

In the same way the rest of the stories may be told, and the children will reproduce them, and so correlate Language and Nature with Reading, as: The angry dog says r-r-r—When the hot horseshoe fell into the pail of water it said s-s-s—After the race Fannie was out of breath, and said h-h-h—When the wind blew it said w-w-w—When the saw cut the log it said n-n-n—The lazy engine said p-p-p—Papa's watch said t-t-t—When the baby tried to talk she said b-b-b—The broken bell said l-l-l—The angry bee said z-s—When the cherry pit stuck in Frank's throat he said k-c—When the baby was asleep mother said sh-sh-sh—When the locomotive had a heavy load to draw it said ch-ch-ch—When the man sharpened the knives on the grindstone it said th-th-th. (These stories are pictured in the Demarest Reader.)

To get these phonetic sounds correctly the eye, mouth and ear need to be trained to become familiar with sounds and the forms representing them. The children should give the closest attention to the teacher's tongue, teeth and lips while she is forming the sound, and then try to imitate them. The sounds written on heavy manila paper may be used for a rapid drill each day. The sound pictures may be drawn on the board or on large cards, and the children will enjoy telling the stories represented by the pictures.

SENTENCES AND PARAGRAPHS.

The sentences at first will be very short and simple, but can be made interesting. They should be silently studied, and then read clearly, distinctly, and so as to convey the right meaning. Later on, paragraphs may be read. These little paragraphs should be made very interesting. Sometimes they can be little Language stories about a birthday party, picnic, dolly, flag, father, mother, etc. Other times they can be short Nature stories about the apple, birds, cat, corn, dog, mouse, pear, etc. In these lessons the teacher prepares a series of questions the answers to which she writes on the board. The questions will necessitate the child getting the thought of the lesson; and if they are asked in a bright, cheerful manner, the child will read the answers in the same way and will express his thoughts naturally. The teacher will have the object, or a picture of the object for each lesson.

THE BIRTHDAY PARTY.

Questions.	*Answers.*
Who will have the birthday party? Whom will she ask to come? Will the little girls play with her dolls? Will the boys play with Sam's bat and ball? Where will the girls play? Where will the boys play?	Fannie will have the birthday party. She will ask Alice, Anna, Nan, John, Minnie, Kate. Mark and Nat. The little girls will play with her dolls. The boys will play with Sam's bat and ball. The girls will play in the house. The boys will play in the garden.

THE PICNIC.

What will Minnie and Alice have to-day? Where will they go? Will they ask the school children? Will they have a good time? What will they see in the woods? Do little children like flowers?	Minnie and Alice will have a picnic to-day. They will go to the woods. They will ask the school children. They will have a good time. They will see pretty flowers in the woods. Little children like flowers.

THE DOLLY.

What have I? Do you know my dolly's name? Do you like the name Nan for a doll? Her name is Nan. Do you see Nan's hat? What can you see on the hat? What is in the band? Does my dolly look pretty?	You have a doll. I do not know the doll's name. I like the name Nan for a doll. I see Nan's hat. I can see a red band on the hat. A pink is in the band. The dolly looks pretty.

THE FLAG.

What have I? Whose flag is it? What color is the flag? Do we all love this flag? May I give the flag to Alice?	You have a flag. It is my country's flag. The flag is red, white and blue. We all love this flag. You may give the flag to Alice.

FATHER.

Who can you see in this picture? Is he a big man? Do you know who the man is? Whose father is he? Is that his dog with him? What is the dog's name?	I see a man in the picture. He is a big man. The man is Mr. Green. He is Nan and Nat Green's father. That is his dog with him. The dog's name is Sam.

MOTHER.

Can you see mother? Who has she? Is mother singing to the baby? Does baby like to hear mother sing? Does mother love the baby? Does the baby love mother?	I can see mother. She has baby. Mother is singing to the baby. Baby likes to hear mother sing. Mother loves the baby. The baby loves mother.

THE APPLE.

What do you see? Is it a big apple? Is the apple red? From where did the apple come? Do you like apples? What will you say if I give the apple to you?	I see an apple. It is a big apple. The apple is red. It came from the apple tree. I like apples. I will say "Thank you" if you give the apple to me.

BIRDS.

What do we hear singing? Do you like to hear the birds sing? Where are the birds? Where is the apple tree? What color are the birds? Are the birds little?	We hear the birds singing. I like to hear the birds sing. The birds are in the old apple tree. The apple tree is in the garden. The birds are yellow. The birds are little.

THE CAT.

What is this? What does the cat like? Will Mark give her some milk? In what will he give her the milk? Does kitty like to play with little girls and boys?	This is a cat. She likes milk. Mark will give her some milk. He will give her the milk in a saucer. Kitty likes to play with little girls and boys.

THE CORN.

What has grandma in her garden? Is the corn pretty? Do little girls and boys like to eat corn? Please, give me an ear of corn? Is corn good to eat?	Grandma has some corn in her garden. The corn is pretty. Little girls and boys like to eat corn. I will give you an ear of corn. Corn is good to eat.

THE DOG.

Who am I? What is my name? Do little children like me? Can a dog run? With whom do I play? What have I for my breakfast?	You are a big dog. You are Sam. Little children like you. A dog can run. You play with the old cat. You have fish and milk for breakfast.

THE MOUSE.

Do you see that little mouse? Why is she running away? Do you like the pretty little mouse? Does the cat like her? Does she want to get the mouse? What will she do with the mouse?	I see the little mouse. She sees the cat. I like the pretty little mouse. The cat does not like her. The old cat wants to get the mouse. She will eat the mouse.

THE PEAR.

What have I in my hand? From where did it come? What color is the pear? Is the pear good to eat? Do you like pears?	You have a pear. It came from the pear tree. The pear is yellow. The pear is good to eat. I like pears.

English in 1B.

By Annie Brierly, P. S. 53, Brooklyn.

Composition, Conversation.

THE teacher is not restrained in her composition work. The Course of Study gives her a fund of subjects to choose from, namely: the topics mentioned in nature study, simple artistic pictures, the pupils' playthings, pets, games, outings, occupations, food, cleanliness, manners, etc.

The children are always interested in their pets, and if the teacher shows an interest they can easily be induced to talk. As the dog is one of the grade animals and is discussed in the class room as to color, parts, covering, food, etc., and is certainly known to every child, we will take him as an example. The teacher asks: "Who has a dog?" "What can you tell us, Mary, about him?" The story will possibly read like the following: "I have a dog at home. His name is Rover. Rover likes to go to the store with me. He wants to carry the basket."

After a nature lesson on the dog, a very interesting conversation can follow on the sheep dog. Many of the children have been to Prospect Park and have seen the sheep there and their faithful friend, the dog. Some child may even tell you that the sheep dog kept the sheep from wandering after the children who had been feeding them with cake.

"In the Child's World" (Emilie Poulsson) contains a number of interesting dog stories, and one that lends itself to reproduction by the children, as it is short, is entitled "The Cleverness of a Sheep Dog."

Conversations on Simple Artistic Pictures.

In order to obtain the full benefit and the very best results, the picture chosen should be large enough for every child to see and should be placed at the front of the room. If possible have individual pictures for each child.

When selecting a picture to talk about, have your aim in mind—whether you wish it for description value or for the story that it contains.

As the Christmas season draws near a lesson could be given on Ferruzzi's "New Madonna." The picture can be spoken of as being one of a mother and her baby. Ask the children to tell what the picture says. Do you suppose the mother loves the sleeping baby? Whose baby is it? Does the mother hold the baby so that he will not wake?

Reproduction Stories.

We are all apt to forget that children tire quickly. When telling a story that is to be reproduced be sure to have the sentences that compose it short; if they are, much better results can be obtained. The list of stories that I have given are merely to be read to the class; they are not intended for reproduction. Some of the shorter ones like the "Wind and the Sun" can be used as reproduction stories with good results. As a rule it is advisable for the teacher to write her own stories for reproduction.

MY CAT.

My cat's name is Tabby. Tabby's fur is black. She likes to catch mice. One day she caught three mice. She placed them in a row near the door. Then she mewed until I opened the door and saw them. How proud she was!

A NUTTING PARTY.

Alice, May and Ida went to the woods to gather nuts. The basket was nearly filled with chestnuts. A little friend with a bushy tail and a pair of bright eyes had come to gather nuts, too. Whom do you think it was? Why, Mr. Squirrel, of course!

THE FIRST THANKSGIVING DAY.

Many years ago only Indians lived in this country. Some white people came. The ones we speak of were called Pilgrims. They came in a boat called the Mayflower. The Pilgrims worked very hard and built houses. They could not plant anything, because it was winter. In winter the ground is frozen. They had fish and clams, but often they went hungry. The ship that they had sent across the ocean for food was a long time in coming back. The poor people did not know what to do. One day they saw a ship sailing toward the land. They knew that it was bringing them food. They were so grateful that they wanted to give thanks. This day they called Thanksgiving Day.

PENMANSHIP.

Special attention is to be paid to the small letters in this grade; still, at the same time, we are not restricted to small letters alone.

k—f—j—p—z—v—x—q
(8 small letters.)
B—P—R—J—L—O—C—E—S
(9 capitals.)

The above letters are taken in the 1B. The first week of the term the children have placed upon their desks by the teacher their name cards. Every Monday I have especially set aside for drill on their names. What looks worse than a drawing executed beautifully, if the name is written poorly at the bottom of the drawing?

Every penmanship lesson is preceded by a free-arm drill, either at the blackboard or on manila paper.

The teacher, standing at the front of her class, writes the copy upon the board. Each child receives an individual copy written by the teacher. The day that a new letter is taught, the children go to the board—say ten at a time. It is said that "we learn by seeing the mistakes of others." I find this very true in penmanship.

SUGGESTIVE PLAN BY WEEKS.

First—Teach v: van.
I see a van.
Second—Teach p: plum.
It is a plum.
I have a pear.
Third—Teach k: C.
Come to me.
Come, take it.
Fourth—Teach R.
Run to me.
Ring it.
Fifth—Teach B: Ben.
z—buzz.
I see Ben.
Sixth—Teach P: p.
Bees can buzz (Review).
Pick it up.
Seventh—Teach L: Look, Let.
Look at it.
Let me go.
Eighth—Teach S.
Look at Sam.
See my plum.
Ninth—Teach E: Ella.
Eat your pie.
Ella may go.
Tenth—Teach J: j. Jack, jump.
Jack jumps.
See me jump.
Eleventh—Teach x: six, box.
I have six.
My box is big.
Twelfth—Teach O: Otto.
Otto runs.
On the box.
Thirteenth—Teach f: for; q: quick.
I ran for it.
Be quick.

Fourteenth to Twentieth—Review the difficult letters and take special drills on the children's names.

PHONOGRAMS.

e
est
less
ness
ish
ed
er
ers

d
v
y
j g
wh
th
g
bl

br
dr
fl
pl
pr
sl
st
sp

fr
tr
sm
sn
sk
sc
cl
gr
cr

Suggestive Plan by Weeks.

Naturally the blend words that are made up of these phonograms and the short words like ail, eat, each, ill, am, and, etc., are taken as the phonograms are taught, but I do not give them to avoid repetition.

First week—v-d-th.
Second week—bl-br-wh.
Third week—dr-fl-pl.
Fourth week—pr-y-sl.
Fifth week—st-sp (j-g).
Sixth week—fr-tr.
Seventh week—sm-tw-g.
Eighth week—sn-sk.
Ninth week—sc-cl.
Tenth week—gr-cr.
Eleventh week—e-est.
Twelfth week—less-ness.
Thirteenth week—ish-ed.
Fourteenth week—er-ers.
Fifteenth to 20th weeks, review.

Alphabet.

About the middle of the term the children are taught the alphabet, both to recognize and name the different letters and also to recite them in order. When they are perfectly familiar with their letters there is no reason why they cannot take up the easy sight and phonetic words and apply their knowledge by spelling them. Leading on from the spelling of the easy short words, the children are then prepared to take dictation. The short words and sentences that they have had in penmanship can be dictated.

Stories to Be Read to Children.

IB GRADE.

Poems.

Who Stole the Bird's Nest?
The Owl and the Pussy Cat.

Classic Stories.

The Unhappy Pine Tree.
The Anxious Leaf.
Cinderella.
The Straw, the Coal of Fire and the Bean.

Fairy Stories and Fables.

The Wind and the Sun.
The Nest Builders.
The Fox Outwitted.
Dick Wittington and His Cat.
Little One Eye, Little Two Eyes, etc.

Stories for Children.

The Boy Who Cried Wolf.
The Boy and the Brook.

Fairy Tales (Shaw).

The Wishing Ring.
The Three Feathers.
Taro and the Turtle.

Folklore.

The Sheep and the Pig.
Big Spider and Little Spider.

Fables and Folk Stories.

The Country Mouse and the Town Mouse.

Narrative Poems Suitable for Reading to a 1B Class.

By Ella K. Jelliffe, P. S. 70, Brooklyn.

I.

THE FAIRIES OF CALDON LOW.

"And where have you been, my Mary,
And where have you been from me?"
"I've been to the top of the Caldon Low
The midsummer night to see!"

"And what did you see, my Mary,
All up on the Caldon Low?"
"I saw the glad sunshine come down,
And I saw the merry winds blow."

"And what did you hear, my Mary,
All up on the Caldon Hill?"
"I heard the drops of the water form
And the ears of the green corn fill."

"Oh! tell me all, my Mary,
All, all that ever you know
For you must have seen the fairies
Last night on the Caldon Low."

"Then take me on your knee, mother,
And listen, mother of mine,
A hundred fairies danced last night
And the harpers they were nine.

"And the harp strings rang right merrily
To their dancing feet so small.
But oh! the sound of their talking
Was merrier far than all."

"And what were the words, my Mary,
That you heard the fairies say?"
"I'll tell you all, my mother,
But let me have my way.

"And some they played with the water
And rolled it down the hill,
'And this,' they said, 'shall speedily turn
The poor old miller's mill,

"'For there has been no water,
Ever since the first of May,
And a busy man shall the miller be
By the dawning of the day!

"'Oh! the miller, how he will laugh
When he sees the mill dam rise
The jolly old miller; how he will laugh
Till the tears fill both his eyes!'

"And some they seized the little winds
That sounded over the hill
And each put a horn unto his mouth,
And blew it sharp and shrill.

"'And there,' they said, 'the merry winds go,
Away from every horn,
And they shall clear the mildew dank
From the blind old widow's corn."

"'Oh! the poor blind old widow
Though she has been poor so long,
She'll be blithe enough when the mildew's gone
And the corn stands tall and strong.'

"And some, they brought the brown lint seed
And flung it down from the low.
'And this,' said they, 'by the sunrise
In the weaver's croft shall grow.

"'Oh! the poor lame weaver,
How he will laugh outright
When he sees his dwindling flax field
All full of flowers by night.'

"And then up spoke a brownie,
With a long beard on his chin:
'I have spun up all the tow,' said he,
'And I want some more to spin.

"'I've spun a piece of hempen cloth
And I want to spin another—
A little sheet for Mary's bed
And an apron for her mother.'

"And with that I could not help but laugh,
And I laughed out loud and free—
And then on the top of the Caldon Low
There was no one left but me.

"And all on the top of the Caldon Low
The mists were cold and gray,
And nothing I saw but the moss of stones
That round about me lay.

"But coming down from the hill-top
I heard afar below
How busy the jolly miller was
And how the wheel did go.

"And I peeped into the widow's field,
And sure enough were seen
The yellow ears of the mildewed corn
All standing stout and green.

"And down by the weaver's croft I stole,
To see if the flax were sprung,
And I met the weaver at his gate
With the good news on his tongue.

"Now, this is all I heard, mother,
And all that I did see,
So, prithee, make my bed, mother,
For I'm tired as I can be."

—*Mary Howitt.*

2.

GUESSING.

I'll give you three chances to guess what I've seen.
The first was a preacher in brown and green;
The second a vase to hold raindrops that fall;
The third lives on nothing—now what are they all?

"Your first is so easy I could not but guess—
'Tis Jack-in-the-pulpit in brown and green dress.
The second's a pitcher-plant wet with the dew—
I've seen plenty of them, and that's how I knew.
The third is the air-plant—you're wrong to declare
That it feeds upon nothing—its food's in the air.

"And now come my riddles; you've heard, I don't doubt,
Of a sailor whose boat on the sea floats about.
The second's a builder in wood and in clay.
The third is a spinner; now guess—what are they?"

The nautilus sails in his boat on the sea,
And so I am certain the sailor is he.
The beaver builds houses of mud and of wood,
And that is your second. 'Tis well understood
How a spider spins traps for the poor, silly fly,
But not to be caught by your riddles am I.

—*Agnes Lewis Mitchell, in "St. Nicholas."*

3.

THE DIFFICULT SEED.

A little seed lay in the ground,
  And soon began to sprout.
"Now which of all the flowers around,"
  It mused, "shall I come out?

"The lily's face is fair and proud,
  But just a trifle cold;
The rose, I think, is rather loud,
  And then its fashion's old.

"The violet is very well,
  But not a flower I'll choose;
Nor yet the Canterbury-bell—
  I never cared for blues.

"Petunias are by far too bright,
  And vulgar flowers beside;
The primrose only blooms at night,
  And peonies spread too wide."

And so it criticized each flower,
  This supercilious seed,
Until it woke one summer hour
  And found itself a weed.

—*Mildred Howells, in "St. Nicholas."*

4.

WATERPROOF FOLK.

I looked from my window and, dancing together,
I spied three queer people who love the wet weather.
The turtle, the frog and the duck all joined hands
To caper so gayly upon the wet sands.

The turtle was coated in shell, to defy
The pattering raindrops and keep him quite dry.
The frog in green jacket was gay as could be.
"My coat will shed water—just see it!" said he.

The duck shook his web feet and ruffled his feathers.
Cried he: "Rain don't hurt me! I'm dressed for all weathers,
And when I can see the clouds frown in the sky
I oil my gray feathers and keep very dry!"

—*St. Nicholas.*

5.

THE WASP AND THE SPIDER.

Said the wasp to the spider, "Let's build us a ship,
  With a red maple leaf for a sail;
We'll fasten it right at the front of a chip;
Like mariners bold we will start on a trip
  And weather the heaviest gale."

The spider agreed, and they both sailed away
  Far over the seas in their dory;
But whither they went, I really can't say,
For they never were heard of again from that day!
  So that is the end of my story.

—*F. H. Littlejohn, in "St. Nicholas."*

6.

HOW THE LITTLE KITE LEARNED TO FLY.

"I never can do it," the little kite said,
As he looked at the others high over his head;
"I know I should fall if I tried to fly."
"Try," said the big kite; "only try!
Or I fear you never will learn at all."
But the little kite said, "I'm afraid I'll fall."
The big kite nodded: "Ah, well, good-bye;
I'm off," and he rose toward the tranquil sky.
Then the little kite's paper stirred at the sight,
And, trembling, he shook himself free for flight.
First whirling and frightened, then braver grown,
Up, up he rose through the air alone,
Till the big kite, looking down, could see
The little one rising steadily.
Then how the little kite thrilled with pride
As he sailed with the big kite, side by side,
While far below he could see the ground,

And the boys like small spots moving round.
They rested high in the quiet air,
And only the birds and clouds were there.
"Oh, how happy I am!" the little kite cried;
And all because I was brave and tried."

—*Katharine Pyle, in "St. Nicholas."*

7.

SANTA CLAUS AND THE MOUSE.

One Christmas eve, when Santa Claus
Came to a certain house
To fill the children's stockings there,
He found a little mouse.

"A merry Christmas, little friend,"
Said Santa Claus, good and kind.
"The same to you, sir," said the mouse.
"I thought you wouldn't mind

"If I should stay awake to-night
And watch you for a while."
"You're very welcome, little mouse,"
Said Santa, with a smile.

And then he filled the stockings up
Before the mouse could wink—
From toe to top, from top to toe,
There wasn't left a chink.

"Now, they won't hold another thing,"
Said Santa Claus, with pride.
A twinkle came in mouse's eyes,
But humbly he replied:

"It's not polite to contradict—
Your pardon, I implore—
But in the fullest stocking there
I could put one thing more."

"Oh, ho!" laughed Santa, "silly mouse,
Don't I know how to pack?
By filling stockings all these years,
I should have learned the knack."

And then he took the stocking down
From where it hung on high,
And said, "Now put in one thing more;
I give you leave to try."

The mousie chuckled to himself,
And then he softly stole
Right to the stocking's crowded toe
And gnawed a little hole.

"Now, if you please, good Santa Claus,
  I've put in one thing more,
For you will own that little hole
  Was not in there before."

How Santa Claus did laugh and laugh!
  And then he gayly spoke:
"Well! you shall have a Christmas cheese
  For that nice little joke."

If you don't think this story true,
  Why! I can show to you
The very stocking with the hole
  The little mouse gnawed through.

—*Emilie Poulsson.*

8.

The Dumb Soldier.

When the grass was closely mown,
Walking on the lawn alone,
In the turf a hole I found
And hid a soldier underground.

Spring and daisies came apace;
Grasses hide my hiding-place;
Grassen run like a green sea
O'er the lawn up to my knee.

Under grass alone he lies
Looking up with leaden eyes,
Scarlet coat and pointed gun
To the stars and to the sun.

When the grass is ripe like grain,
When the scythe is stoned again,
When the lawn is shaven clear,
Then my hole shall reappear.

I shall find him, never fear,
I shall find my grenadier;
But for all that's gone and come
I shall find my soldier dumb.

He has lived, a little thing,
In the grassy woods of spring;
Done, if he could tell me true,
Just as I should like to do.

He has seen the starry hours
And the springing of the flowers,
And the fairy things that pass
In the forests of the grass.

In the silence he has heard
Talking bee and lady-bird,
And the butterfly has flown
O'er him as he lay alone.

Not a word will he disclose,
Not a word of all he knows.
I must lay him on the shelf
And make up the tale myself. —*Stevenson.*

Childs' "Who Stole the Birds' Nest?" and Lear's "The Owl and the Pussy Cat" may be found in the Riverside Literature Series, in use in the schools. Whittier's "Child Life," Celia Thaxter's "Stories and Poems for Children," Lucy Larcom's poems, as well as Stevenson's, Sherman's, Field's, and many others, in children's magazines; all yield rich material in this line. It is not too soon to read the children's favorite, "'Twas the Night Before Christmas." They'll gladly hear it year after year.

Nature Stories Suitable for Narration in 2A.

By Ella K. Jelliffe, P. S. 70, Brooklyn.

"The stories told for oral reproduction should include nature stories. . . . They should be models in structure and in choice of words."—Syllabus.

NATURE stories include a wide range of subjects, but as the purpose of these stories is not primarily the study of Nature, but the study of English, no logical sequence need be followed in the lessons. Beginning with simple thoughts and short sentences, we may by degrees proceed to what is more complex and longer, dividing the lesson into parts if necessary, making a "continued story" of it, reviewing the thought of yesterday in brief, and adding the new thought in detail.

Following are a few stories, chosen from various sources, and embracing many of the nature subjects known to children, viz.: bees, flowers, trees, leaves, birds, snowflakes, squirrels, dogs, etc. A few bits of verse, some allegory and myth, are blended with the prose stories to give variety of form and facility of expression. The October number of the Monographs contains many other reproduction stories.

It is far better for the teacher to familiarize herself with the story in all its details and then tell it to the class instead of reading it. We all know how much more effective a story told with voice and eye and gesture is, to a story ever so well read. The teacher might paraphrase some of Longfellow's nature stories—the "Dandelion Myth," and others, found in Hiawatha; "The Birds of Killingsworth," Walter von der Vogelweid; the first stanza of "The Sea Hath Its Pearls;" a thought or a couplet from "Evangeline" (such as "Silently, one by one, in the infinite meadows of Heaven blossom the lovely stars, the forget-me-nots of the angels"), and countless other gems from our own poets and from the English masters, especially Tennyson. Browning's famous song from "Pippa Passes," "The Year's at the Spring," could be given to even these little ones. It is not necessary to read these verse-stories to the children, but to tell them in a few well chosen words, picking out the germ thought and clothing it in simple but good language, remembering that "a man's (and even a child's) reach should always exceed his grasp." No teacher of primary grades ought to be without a copy of "In the Child's World," with its carefully collated stories and invaluable suggestions for the teacher's reading in connection with these stories.

1.

How doth the little busy bee
  Improve each shining hour?
He gathers honey all the day
  From every bud and flower.

2.

"Come, little leaves," said the wind one day—
"Come o'er the meadow with me, and play;
Put on your dresses of red and gold—
Summer is gone, and the days grow cold."

Soon as the leaves heard the wind's loud call,
Down they came fluttering, one and all;
Over the brown fields they danced and flew,
Singing the soft little songs they knew.

3.

"Consider the lilies of the field how they grow; they toil not; neither do they spin;

"And yet I say unto you that even Solomon in all his glory was not arrayed like one of these."—*Bible.*

4.

"The best and highest thing a man can do in a day is to sow a seed, whether it be in the shape of a word, an act, or an acorn."—*James Boyle O'Reilly.*

5.

THE STORY OF THE BEE.

1. One morning last May a bee set out among the flowers on a honey hunt.

2. As the bee left home this morning, it made up its mind that it would devote itself to the apple blossoms.

3. So off the bee flew; and in a few moments it saw hundreds of little pink and white handkerchiefs waving at it from the apple orchard.

4. What do you suppose these were, these gay little handkerchiefs? They were the flower leaves of the apple blossoms.

5. When the bee saw so many bright handkerchiefs waving it welcome, along it hurried, and in another minute it had settled upon a freshly opened flower and was eagerly stealing the precious sweet.

6. It brushed rudely against the little dust boxes and became covered with their golden dust.

7. Then it flew off to the next blossom. Into this it pushed its way, and in so doing struck those pins which have no dust boxes; and upon their broad, flat tips fell some of the yellow dust grains with which its body was powdered.

8. Now there began to happen a strange thing: Soon after the yellow dust from the bee fell upon the flat tips of the pins without dust boxes, the little green eggs at the bottom of the green cup which holds the rest of the flower became full of life and began to get larger. (Show calyx of apple blossom or draw a picture of it on blackboard.)

9. The green cup also seemed to feel this new life, for it, too, grew bigger and bigger, and juicier and juicier, until it became the fine, juicy apple we have before us this morning.

10. So now you understand a little of what happened to make the great apple take the place of the delicate blossom.—*Adapted from Mrs. Dana's "Plants and Their Children."*

6.

THE FIRST ARRIVAL.*

I should like to ask each of you children to tell me what flower you believe to be first to come in the spring.

1. Perhaps even in March some of you may have ventured into the woods to look for the lovely, fragrant, waxlike blossoms of the trailing arbutus.

2. In the sheltered hollow, where the snow first melts, the delicate pink flowers make you glad with their beauty and with the thought of the good time coming.

3. But all will not agree that this trailing arbutus is the first spring flower. Many think the violet can lay claim to this honor. The yellow violet may be found in the woods before the trees have put forth their leaves.

4. Some say that the little blue liverwort is the earliest of all; and others vote for the spring beauty, or for the marsh marigold which gilds the wet meadows in April.

5. But not one of these is right. The earliest blossom of the year comes long before any of these flowers.

6. It sends out its rather coarse little flowers under the protection of a tough waterproof hood which shields them from the rude winds and nipping cold. This plant bears the ugly name of skunk cabbage.—*From Mrs. Dana.*

7.†

The pretty green katydid scrapes his wings along his sides, and makes the sound, "Katy did, Katy didn't."

8.†

The daisy was first called "day's eye," because it closed at night and opened at dawn.

9.

THE KIND OLD OAK.

It was almost time for winter to come. The little birds had all gone far away, for they were afraid of the cold. There was no green grass in the fields, and there were no pretty flowers in the gardens. Many of the trees had dropped all their leaves. Cold winter, with its snow and ice, was coming. At the foot of an old oak tree some sweet little violets were still in blossom. "Dear old oak," said they, "winter is coming, we are afraid that we shall die of the cold."

"Do not be afraid, little ones," said the oak; "close your yellow eyes in sleep, and trust to me. You have made me glad many a time with your sweetness. Now I will take care that the winter shall do you no harm."

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*The flowers or pictures of them will make this story interesting.

†These short selections are for literal reproduction.

So the violets closed their pretty eyes and went to sleep; they knew that they could trust the kind old oak. And the great tree softly dropped red leaf after red leaf upon them, until they were all covered over.

The cold winter came, with its snow and ice, but it could not harm the little violets. Safe under the friendly leaves of the old oak, they slept and dreamed happy dreams until the warm rains of spring came and waked them again.—*Little Flower Folks.*

10.

PEARL AND HER PIGEONS.

When Pearl was seven years old her brother Freddie gave her two pretty white pigeons. The little girl was as happy as a queen when she saw her pretty pets. She named one Dot and the other Phil. Pearl loved dearly to play with them, but she did not like to keep them shut up in a cage.

Sometimes she would open the window and say to them: "Fly away, my dearies, and play with other birds! I do not wish to keep you here this beautiful morning." They would flutter their wings joyously, peck her hand, and make a funny little noise which sounded very much like "Good-by, sweet mistress! We will return soon and tell you all about the sunny world and what the birds are doing." When Pearl went out into the garden to pull flowers, or give her dollies a ride, the pigeons would come to her and light upon her head; and sometimes they would poke their bills into her mouth for a kiss. She fed them with crumbs from her hand, and every morning she gave them some fresh, sparkling water to bathe in.

Phil called Dot his little wife, and he often invited her to take a walk with him. When Dot was not busy she went with him. In the beautiful springtime Dot laid five white eggs and sat on them till the wee birds crept out. Dot and Phil were as happy as they could be, and so proud of their little family! Pearl put crumbs enough for all beside the nest, which pleased Mother Dot very much. Then she would sit down beside the cage and watch the mother-pigeon patiently teaching the little ones to eat. Pearl often heard the mother-bird putting her little family to sleep, and she would say to her darling baby brother: "Listen, dear! I hear the mother-pigeon cooing softly to her little ones."—*Helen A. Keller.*

11.

SNOWFLAKES.

Once upon a time a little raindrop thought it had played long enough up in the clouds, and said it would go down to the earth and see what good it could do. So it started. While it was falling it had to pass through a cloud that was very cold, and this funny little raindrop, instead of shrinking together as we do when we are cold, stretched out and stretched out till it was not round any more, but was long and thin and hard like a needle—and that is just what it was: a little ice needle—as it went on falling it met another just like itself. The second one said: "Little Ice Needle, where are you going?"

"Down to the earth to see what good I can do."

"I'll go, too;" so the second ice needle joined the first, and they fell together.

Pretty soon they met a third, and it said: "Little Ice Needles, where are you going?"

"Down to the earth to see what good we can do."

"Then I'll go, too." So it joined the others and they fell together. Then they met another, and another and another, who all joined them. Then there were six little ice needles falling togther, and they had a new name—"Snowflake."

Little Snowflake met others who asked it where it was going.

"Down to the ground to see what good I can do."

"We'll go, too. But where shall we go?"

"I know," said one of the little ice needles. "Last summer, when I was warm and round, I saw a place where a poor little sick boy had planted some seeds which a kind lady gave him, and I think it would be nice to follow that place and keep it warm, so that the seeds in the ground may not freeze and the little boy may have some flowers next summer."

"Oh! so we will," said they all, and they fell faster and faster, that they might get there sooner. Other snowflakes saw them and went, too, and the ground was covered more and more thickly with snow till there was enough to keep the seeds from freezing all winter.

When the weather began to be warmer the snow turned into water and ran down into the earth, and the seeds drank it and swelled and swelled until, by and by, little leaves came out above ground from each seed. Then other leaves grew, and, when summer came, little Frank had his flowers again, and all because our little raindrop wanted to do some good in the world.—*Josephine Jarvis.*

12.

THE PLANT HOUSEHOLD.

A certain household well I know,
  The prettiest ever seen,
And at its head in fairest robes
  There sits a dainty queen
While all the upper servants dress
  In livery of green.

The cooks and those who with them work
  Are clad in dingy brown.
"No fancy dress for us," they say;
  "A sober-colored gown
Is better far for work like ours
  Than all the green in town.

"For we must toil beneath the ground,
  And hard we work, indeed,
That Lady Flower and all the rest
  May have the food they need.
To choosing and preparing it
  We must pay strictest heed."

"And we," the upper servants say,
  "Must carry it with care
And see that every member has
  A full and proper share.
Thus day by day we gladly work
  To serve our Lady Fair."

And Lady Flower sits up aloft
  In robes of rainbow hue,
All perfumed sweet and gold-bedecked
  And gemmed with diamond dew.
Was never royal lady yet
  More wondrous fair to view?

And yet, like all her servitors,
  This little lady gay
Leads not a life of idleness,
  But works from day to day;
And in her task of making seeds
  She gives her life away.

—*Emilie Poulsson.*

13.

(1) "The Little Worm That Was Glad to Be Alive," by Elizabeth Peabody.

(2) "The Horse That Fed His Friend," from *St. Nicholas.*

(3) "The Story the Milk Told Me," by Gertrude H. Noyes.

—*From "In the Child's World," by E. Poulsson.*

14.

Gray Squirrels and Striped Squirrels.

The gray squirrels are very beautiful, and they are often hunted for their skins; those which come from Siberia are very dark colored, and are made into cloaks and other warm garments for winter. Gray squirrels sometimes get together in great number and travel across the country, over mountains and through dense woods, and even swim broad rivers.

The chipmunk, or striped squirrel, is a very pretty and lively little creature, which makes its nest in a hole which it digs in the ground near the roots of an old tree, or under the shelter of a wall; the nest is made soft and warm with dry leaves, and near it is stored a large supply of walnuts, chestnuts, beechnuts, acorns and grain. In autumn it is very busy getting its winter store of food, and it is often seen hurrying along to its hole with its cheek pouches full of nuts or grain.—*Mrs. S. Tenney.*

15.

The Newfoundland Dog.

Once a little girl was on board of a ship with her mamma, and on the same ship was a gentleman who had with him a fine Newfoundland dog. The little girl wished to play with the dog, but her mamma, fearful that the great dog would hurt her, would not allow it. By and by the little girl fell into the sea and a great cry was raised for the lifeboat. All the time the ship was moving on, and the little girl was left behind struggling in the water. But before the boat was made ready, the noble dog had leaped into the water; he swam to the drowning girl, seized her dress and swam to the boat which had been launched, and both were soon safe in the ship.

16.

A Nature Myth.

Once upon a time there was a great woman whose name was Ceres. This good woman watched over all the fruits of the earth and nursed the baby plants till they grew tall and strong, making the world beautiful. All the grain and the fruits and the vegetables called her Mother Earth and rested in her lap till she sent them forth to serve man. Ceres had a little daughter named Proserpina, and one day, while the young girl was gathering flowers in the fields near her home, the earth seemed to open and she fell in and was lost. Her mother heard a cry and hurried to the spot, but could see nothing of the child. She wandered up and down the world looking for her, but could not find her. Think how broken-hearted she must have been! She forgot all about the baby plants and the fruits, and so they died for want of care. When King Jupiter saw how distressed she was, he sent one of his best messengers to look for the lost girl. This messenger at last found her down below the earth and he brought her to her mother and there was joy again in the home. But it seems that Proserpina had eaten some fruit in the lower world into which she had fallen, and because of this she had to go down there for a little part of every year.

Let me whisper you a secret. I believe she was a seed that fell into the ground, and that she stayed there a little while until she became a plant, and then came up above the ground to see her mother.—*Ella K. Jelliffe.*

17.

THE CHICKADEE.

One day, in February, we were traveling through the snow. Over everything hung the silence of winter. Even the song of the brook was smothered beneath coverlets of ice and pillows of drift. Suddenly the stillness was broken by the thrilling notes of the chickadees. We looked up and saw a flock of these brave little birds hunting for food on the bare branches of the trees; and though they were cold and hungry, they sang their happy little song of chick-chickadeedee!

18.

MODEL LESSON.

Children, listen! I am going to tell you a little story about some pretty winter birds that do not fly away and leave us when the snow comes, but stay with us to cheer us with their glad songs. They wear black caps and they make their nests in holes in rotten trunks of trees. Now this is the story.

(The one given above is adapted from "Home Nature—Study Course," Vol. V., No. 3. These leaflets are issued monthly by Cornell University.)

Tell each sentence slowly, distinctly, impressively. When finished, ask for volunteers to tell it to you, so that they may be able to tell it at home to mother. You will probably get a little piece of it from different pupils—different thoughts or words or phrases will appeal to them individually. Ask questions skillfully to help the sequence:

What were we doing? Traveling.

When were we traveling? One day.

In what month? February.

Where were we traveling? Through the snow.

What kind of day was it? or What hung over everything (like a veil)? The silence of winter.

Could you hear the brook running along as it does in summer? Doesn't it sing a song for us, then? Well, what happened to the song of the brook? What smothered (or hushed) it? Coverlets of ice. Would you like a coverlet of ice on your bed? Does the brook mind? What else covered the brook? What else do you have on your bed beside the coverlets, i. e., the blankets and quilts? Did the brook have pillows? What were they made of? Snow. Just a thin layer of snow? No, piles (or drifts). Now tell me again how the song of the brook as smothered? Didn't you tell me that silence hung over everything? What happened to break this stillness? The chickadees came. Yes, how?—slowly or suddenly? What does suddenly mean? All at once. What kind of notes did we say the chickadees had? Does any one remember? *Thrilling.* That means that the notes thrill you or fill you with joy. Please tell me, then, how the stillness was broken, and don't forget to say "Suddenly" first. When we looked up into the sky, what did we see? A flock of these birds. Are they little or big? What else are they besides *little?* Yes, they are pretty and cheerful; what else? That's it, they're brave. Why do we say they are brave? Various reasons given (because they brave the storms of winter). What were the brave little birds doing? Hunting for food. (What do they eat?) Where were they hunting for it? On the branches of the trees. How did the branches look? Bare. (If any child speaks of them as covered with snow, he may be told that the wind had left one side of the branches bare.) Where had the leaves gone? Would they come again? Don't you think these little birds must have been cold and hungry? Did they cry? What kind of a little song did they sing? How does it go? Now, who can tell me the whole story from beginning to end? Very good—only a little bit left out—who knows what it is? That's it; will you tell it, Jennie? Mary, are you going to tell it to mother, when you get home? Will you tell it to me first?

Before we leave the chickadees, let me read you a little verse that a great American named Emerson wrote about them:

"Piped a tiny voice near by,
Gay and polite, a cheerful cry—
Chick-Chickadeedee! saucy note
Out of sound heart and merry throat.
As if it said, 'Good-day, good Sir!
Fine afternoon, old passenger!
Happy to meet you in these places
Where January brings few faces!'"

Perhaps we might have time to learn a little song—

Five little chickadees, peeping at the door;
One flew away and then there were four.

Chorus.

Chickadee, chickadee, happy and gay
Chickadee, chickadee, fly away!

Four little chickadees sitting on a tree;
One flew away and then there were three.—(Chorus.)

Three little chickadees looking at you;
One flew away, and then there were two.—(Chorus.)

Two little chickadees sitting in the sun;
One flew away and then there was one.—(Chorus.)

One little chickadee left all alone;
He flew away, and then there was none.—(Chorus.)

Finger play.—The thumb and fingers represent the chickadees. The words of the song will suggest the movements. Flying movements of the hand and arm may accompany the chorus after each verse.—*From the Baldwin Primer.*

English—2B Grade.

By Otilda C. Meyn, P. S. 53, Brooklyn.

THE language work in this grade should be divided into Conversational Lessons, Reproduction Stories and Stories Suggested by Pictures. The conversational lessons should be mainly on the weather and topics from the nature work. Lessons on verbs and mispronunciations should be given immediately after the mistake has been made.

Conversations and stories appropriate for this grade are as follows:

OCTOBER.

Conversational Lessons.

Harvest time.

Coloring of the leaves showing it is autumn.

How the animals are preparing for the winter. Special lessons on the beaver, squirrel, etc.

Teacher writes words on board, beginning with a vowel, as owl, other, ink, etc. Mistakes are made in saying the instead of th*e* (long *e*). Each child give a story about a word written on the board, as, "I saw the owl."

Stories Suggested by a Picture:

1. Can't You Talk?—*Holmes.*
2. A Helping Hand.—*Renouf.*
3. The Sower.—*Millet.*
4. The Reaper.—*Robert.*

Reproduction Stories:

1. The Little Light.
2. The Wind and the Sun.
3. The Two Goats.
4. In the Palace of Truth.

Ethical Lessons:

Punctuality.
Politeness:
  Tipping the hat, saying "Thank you," "Excuse me," "Please."
  "Shut door softly," "Good morning," etc.
Kindness to aged.

NOVEMBER.

Conversational Lessons.

Preparing for the winter—coal, wood, clothing, food.

Lead children to mention all that they are thankful for in the past year. To whom we should express our gratitude.

Stories Suggested by a Picture:

1. Lost.—*Schenck.*
2. Four Kittens.—*Adam.*
3. Pilgrim Exile.—*Boughton.*
4. Pilgrims Going to Church.—*Boughton.*

Reproduction Stories:

1. The Pilgrims.
2. The First Thanksgiving.
3. The Ugly Duckling.
4. The Queen Bee.

Ethical Lessons.

Kindness to animals. Connect with the nature work.

Kindness to foreigners.

DECEMBER.

Conversational Lessons.

What children see this month. Contrast with the birds, flowers and green of summer.

In constructive drawing or sewing, the children are probably making little articles which will be suitable as Christmas gifts to their sisters or brothers. Encourage the love of giving. "It is more blessed to give than to receive."

Also have a conversation lesson on Santa Claus or on the birth of Christ, and why the 25th of December is set aside as a feast day.

Stories Suggested by a Picture:

1. Angelus.—*Millet.*
2. On the Beach.—*Delobe.*
3. Escaped Cow.—*Dupre.*
4. Head of Christ.—*Hofmann.*

Reproduction Stories:

1. Sour Grapes.
2. The Ox and the Fly.
3. The Boy and the Nuts.
4. The Two Packs.

Ethical Lessons.

Unselfishness.

Honesty, truthfulness.

Respect to parents.

JANUARY.

Conversational Lessons.

The first month of the new year. Which year is it? Number of months in the year? Begin the new year by being good, obedient and honest.

Stories Suggested by a Picture:

1. Little Red Riding Hood.—*Ferrier.*

2. A Shower.—*Langee.*
3. Always Tell the Truth.—*Faed.*
4. Milking Time.—*Dupre.*

Reproduction Stories:

1. The Goose that Laid Golden Eggs.
3. The Lion and the Fox.
3. The Ant and the Grasshopper.
4. The Wolf and the Lamb.

Ethical Lessons.

Kind greetings ("Good-morning," etc.)

Industry. Connect with a story to be busy and make use of every minute. "Little Red Hen." Neatness. Order.

One day a week can be devoted to reading a story to the children. Suitable stories are: The Queen Bee; The Two Brothers; The Six Swans; Hans in Luck; How Thor Got the Hammer; The Hammer Lost and Found; The Street Musicians; The White Snake; and many others taken from Grimm's Fairy Tales.

A good plan is to give each child a card on which is written a maxim. Have two or three rows recite their maxims at the opening exercises.

1. Do right and fear not.
2. Life is short, let's talk less.
3. Never put off till to-morrow what you can do to-day.
4. Deeds are fruits; words are but leaves.
5. Manners and learning make the gentleman.
6. He who rises late never does a good day's work.
7. When you receive a kindness, remember it; when you do a kindness, forget it.
8. There is nothing so bad as not to be good for something.

9. Be kind and be gentle
To those who are old,
For kindness is dearer
And better than gold.

10. By and By is a very bad boy;
Shun him at once and forever
For they who travel with By and By
Soon come to the house of Never.

11. We can do more good by being good than in any other way.

12. Politeness is to do and say
The kindest things in the kindest way.

13. There is nothing so kingly as kindness and nothing so royal as truth.

14. If a task is once begun
Never leave it till it's done.
Be the labor great or small,
Do it well or not at all.

15. A kindness is never lost.

16. To improve is better than to surpass.

SPELLING.

At least 200 words selected from the reader. One series list containing a common phonic element can be taught a week.

Series List.

The words in italics are to be taught and used in dictation.

and—*band, hand, sand, land;* brand, stand, strand.
ay—*day, gay, way, clay;* hay, say, may, May, lay, stay, pay, bay, bray, nay, ray, tray, stray.
atter—*matter, patter, chatter, platter;* batter, hatter, latter, tatter, fatter.
ack—*back, pack, tack, rack;* hack, Jack, lack, Mack, nack, sack, wack, black, track, stack.
ail—*sail, tail, nail, fail;* bail, hail, mail, pail, rail, trail.
able—*table, stable, fable, able;* cable.
amp—*tramp, camp, lamp, stamp;* damp, cramp.
ard—*card, hard, lard, yard;* bard.
et—*met, wet, pet, set;* bet, get, jet, let, yet.
eet—*beet, meet, sweet, street;* feet.
ind—*find, grind, mind, kind;* bind, hind, wind.
ose—*hose, nose, those, chose;* dose, rose.
eel—*feel, peel, heel, steel;* keel, kneel, wheel.
ife—*life, wife, knife, fife.*
ook—*cook, hook, look, took;* book, nook, shook.
ick—*brick, chick, quick, trick;* Dick, kick, lick, nick, pick, sick, tick, wick, stick, prick.
ice—*rice, dice, slice, twice;* mice, nice, thrice.
oat—*coat, goat, float, throat;* boat.
ome—*come, some.*

SELECTIONS.

The list of selections to be taught in this grade are given in the syllabus. Those appropriate for the fall term are:

September—Lady Moon; Stop, Stop, Pretty Water.
October—My Shadow.
November—Thanksgiving Day.
December—Windy Nights.
January—The Land of Story Books.

The Reading Lesson in the 2B Grade.

By Grace L. Leeser, P. S. 53, Brooklyn.

IN teaching reading to children of the 2B grade, the instructor must aim at three points, namely, proper enunciation, good expression as a result of an appreciation of the thought expressed, and a development of a good taste for literature.

Success in meeting this aim will depend largely on the method of developing the lesson. The following is a suggestive method to pursue:

(*a*) *Preparation.*

I. Recognition of new words. 1. Place every new word diacritically marked on the blackboard. 2. Ask for volunteers who know the word. 3. After a volunteer has pronounced the word correctly repeat the word distinctly to the class. 4. Have the class repeat the word. 5. After every new word has been recognized by the class, have the entire list reviewed orally until the words are readily recognized and pronounced. (Repetition is a valuable aid to memory.)

II. The meaning of new words. 1. Put new words in sentences. 2. Ask for volunteers that know the meaning. 3. Enlarge on meaning. 4. Ask several children to put the words in sentences.

III. The articulation drill. 1. Place on the blackboard parts of sentences in the new reading lesson, containing a word or words that are apt to be improperly articulated by the children. (This list will depend upon the neighborhood from which the children come.) A sharp ear on the part of the teacher will catch the prevalent errors in articulation. 2. Proceed similarly as in the development of new words. The following is part of a list found useful in my district. (Of course, as before stated, errors in different districts will not be the same.)

went across
wouldn't you like
yellow dust
what I have
where are
why aren't
go anywhere
and white
good morning
are going
is looking
was hanging
was playing
the humming birds
to be
to watch
to help

put it
my nest
when they
find the book
kind horse
looked for a carriage
we found
old donkey
for her
for him
in the meadows
your window
on her bureau
big dog
a long ride
ran fast
last Saturday

to sleep again
to school
like to blow
to have it
from the flowers
loud humming
used to hide
little Elsie
was happy
every day
other flowers
the winter
do you like
took us
very tiny bird

IV. Read the story to the children. The teacher's reading should be a model to the children in enunciation, emphasis, rate and tone.

V. Assign the lesson for home study.

(*b*) *Some of the errors to be guarded against in the next day's reading lesson.*

I. Reading words instead of sentences; as,

"Let
us
look
at
this
little
plant."

1. Ask child if he talks that way. 2. Tell child that he must read as he talks; some one outside of the door ought not to know that he has a book in his hand. 3. Tell child to make his eye go ahead of his tongue; *i. e.,* when he reads "Let" aloud, he must make his eye see "us" before he says "us." (Speak of the method pursued by the public speaker, the minister, etc.; children will soon find great fun in trying to see not only one but several words or a whole sentence ahead of the utterance of the words.)

II. Reading sentences without getting any meaning out of the sentence. 1. Have the child give the substance of the sentence read in his own words. If he is unable to give it, make him re-read until the little story makes "sense." Frequently ask for antecedents of adjective, personal or other pronouns in the little story, as "Who is *he?*" (Tell how father, mother, or you read something once and understand it. Children will soon try to accomplish as much as grown people.)

III. Reading as if more were coming after the last word of a sentence. 1. Ask child if there are any more words to be read in that sentence. 2. Tell him that his reading made one think so. 3. Have him re-read his sentence with the proper inflection.

IV. Fast reading. 1. Ask details of sentence. 2. Child must re-read sentence slowly to answer them.

V. Errors in articulation in words or parts of sentence. 1. Use the ear-training method, i. e., have him sound the words slowly to the child until he articulates properly.

VI. Repetition: 1. Repeat as often as child did. 2. Ask him if he had as many words in his sentence. 3. Have the child read the sentence silently before re-reading to you. (Suggest to child that silent reading will keep him from repeating.)

VII. Sentences with the exclamation mark read like declarative sentences: 1. Explain the use of the "wonder mark," as in calling "Fire!" "Help!" "Police!" "See the snow!" 2. Ask child to read as if he wondered at something.

VIII. Not raising voice when the question mark is seen at the end of a sentence: 1. Explaining the meaning of the mark. 2. Ask child how he would ask that question if he were talking.

IX. Putting in words: 1. Look for the word after which the child supplied one. Ask the child the next word to it. 2. Tell child the word which he said instead. 3. Have him re-read sentence correctly.

X. Leaving out words: 1. Similar to IX. 2. Tell child that he did not say that word. 3. Have him re-read sentence correctly.

XI. Very low reading: 1. Have the child stand at the back of the room and read to make himself heard by all. 2. Ask children in extreme ends of the room if they heard the sentence.

XII. Loud reading: 1. Try to overlook this fault whenever possible. (This mistake in one may spur on the other children that get up and mumble to read in a moderate pitch. Of course, when this mistake is purposely made, it calls for a correction under the head of discipline.)

XIII. Reading with the book up to the face: 1. Explain how eye sight is impaired. 2. Show by imitation that the sound is cut off by the book.

XIV. Reading out loud by the children at seats while the one is rising to read: Explain the amusement given by some person that reads out loud in the cars. Explain that this person was permitted to read aloud when he was a child, and therefore he could never stop it when he grew up. 2. Tell children that neighbors are disturbed by loud reading. (Illustrate by public library.) 3. Explain that babies read out loud. (Most children of the 2B grade do not like to be called "babies.") 4. Appeal to love for the teacher; tell children that those who care for the teacher will not read out loud, because she does not like it. 5. Finally, after a sufficient lapse of time, call reading out loud a breach of discipline: i. e., whispering. (All reading at seats must be done by eye.)

XV. Emphasis: 1. This may only be brought out by skillful questioning on the part of the teacher. (We shall assume that the child has not emphasized at all, or has emphasized the wrong word.) The following lines are taken from a reader of this grade to indicate a few of the errors with their correction:

1. "Good morning, little *Elsie!*"
2. "Where are you *going* this *bright* morning?"
3. "*Good* morning, *grandpa*"
4. "I am going to see *Grace.*"
5. "Why aren't you going to *school?*"
6. "Why, *grandpa!*
7. It is *Saturday.*"

Sentence 1. (*a*) Ask, "What *kind* of morning does grandpa wish?" (*b*) Child answers, "A *good* morning." (*c*) Tell child to make "*good*" stronger when he reads the sentence.

Sentence 1 (*a*) Ask child, "Does grandpa say 'Good morning, little Katie?' " (*b*) Child answers, "*Good* morning, little *Elsie.*" (*c*) Tell child to make "*Elsie*" stronger.

Sentence 2. (*a*) Ask if grandpa says, "Where are you *staying?*" (*b*) Children say, "Where are you *going?*" (*c*) Tell child to make "*going*" stronger when he reads sentence.

Sentence 2. (*a*) Ask, "Does grandpa say, 'Where are you *going* this *dull* morning?' " (*b*) Child answers, "Where are you *going* this *bright* morning?" (*c*) Tell child to make "*bright*" stronger in reading sentence.

Sentence 3. (*a*) Ask, "*What* kind of a morning does Elsie wish to grandpa?" (*b*) Child answers, "A *good* morning." (*c*) Tell child to make "*good*" stronger when he reads the sentence.

Sentence 3. (*a*) Ask, "To *whom* does Elsie wish a *good* morning?" (*b*) Child answers, "To *grandpa.*" (*c*) Tell child to make "*grandpa*" stronger.

Sentence 4. (*a*) Ask, "You are going to see *whom?*" (*b*) Child says, "*Grace.*" (*c*) Tell child to make "*Grace*" stronger.

Sentence 5. (*a*) Ask child, "Why aren't you going *where?*" (*b*) Child answers, "To *school.*" (*c*) Tell child to make "*school*" a strong word.

Sentence 6. (*a*) Ask child, "Does it say, 'Why *Mary?*' " (*b*) Child answers, "Why, *grandpa.*" (*c*) Tell child to make "*grandpa*" a strong word in reading.

Sentence 7. (*a*) Ask child, "Is it *Monday?*" (*b*) Child answers, "It is *Saturday.*" (*c*) Tell child to make "*Saturday*" stronger in reading.

Dictation and Spelling in 2B.

By Florence A. Nelson, P. S. 59, Brooklyn.

WE are all, I think, willing to believe that the wise people who made the course of study put nothing in it without reason. Therefore, we must first consider why we have dictation. Considering the subject from a practical viewpoint, we all know that the great mass of public school children are to be bread winners. Many of them will enter offices where clerical work will be called for. Consequently, it will be of inestimable value to these children if, in the beginning, and throughout the school course, the power is cultivated of receiving accurately from dictation the words of others. And aside from the practical value, we must appreciate the mental training of dictation, which develops the memory and the power of concentration. And so we see at least some good reason for having dictation.

The next question is our connection with the matter. In 2B we begin the subject. In the previous grades the child has been taught to copy sentences, but has had no dictation, except from lists of spelling words. These grades, however, should prepare the way for dictation by teaching the form and arrangement of the title, grade, date, sentences and name.

A good form, for any teacher who has none definitely in mind, consists of the title written on the middle of the top line, the grade at the left and the date at the right on the next line, after which a line is left and the sentences written. When completed, a line is left and the child's name written in the middle of the next line.

Before dictation is commenced it is well for the teacher to make sure that each child understands this form. Having, then, in mind what the child already knows, we can decide how to begin. As in all subjects, a good beginning is half the battle for success, and it is our duty in 2B to lay a good foundation for the school's work in dictation. To do this it is advisable to begin with very simple sentences—say, of five words, and even at the end of the term the limit should be eight words. No sentence should contain a word which the child has not already been taught to spell. But we must not forget that in every class there are always a few poor spellers, and the question arises as to whether or not a child should be allowed to write an incorrect word. There are arguments on both sides. Those who say "no" argue that when a child writes a wrong word, that incorrect form is being impressed on his mind through the visual and muscular senses, and that there will be difficulty in eradicating this impression. The teacher who believes this will then allow any child who is not sure of the spelling of a word to ask her for the correct spelling, in which case she writes it on the blackboard, and the child copies it. On the other hand, those who believe in allowing a child to write an incorrect word argue that a child should be taught to rely on himself, as that is what the world will expect him to do, and that continual aid leads to lazy habits. Such teachers allow a child to write what he thinks is correct, and then, when in error, to correct the mistake himself. And here the subject of correcting papers may be discussed.

One method is for the teacher to correct the mistakes in red ink, return the papers, and have the work done again. Another plan is for the teacher to write the work on the blackboard, bit by bit, discussing each part, and allowing the children to find their own mistakes, after which the entire class copies the work from the blackboard.

But we have not yet considered what shall be the subject matter of the sentences. According to the syllabus, they should be interesting and instructive. To fulfil this demand we must correlate the dictation with other subjects of the grade, especially nature and reading.

And now that we have considered the purpose, form and subject matter of dictation, we can generalize and form a plan for the presentation of the lesson. Let the teacher distribute half a sheet of composition paper on which is drawn a one-inch margin. On the blackboard should be drawn lines and margin to correspond to the children's papers. The teacher writes on the blackboard the title, grade and date for pupils to copy, as the children of this grade are too young to write these from memory. She then calls attention to the punctuation and reviews the rules. She may show the paragraphing by writing sentences, using blanks instead of words. (All this as a drill before the lesson proper is given.) The children are then ready for the dictation. They listen to the teacher as she gives the sentence once, and on the command "write," they take pens and write the entire sentence. The teacher should not repeat the sentence. When all of the sentences have been dictated and written, the children skip a line and write their names, which finishes the lesson for the day. The teacher may then use her own discretion about the correction of mistakes.

Such a lesson, given three times a week, should accomplish all that is demanded in dictation in the 2B grade.

SPELLING.

As spelling is absolutely essential to almost every one, and as it enters into so many other branches of learning, we see at once that is one of the most important subjects in the school course. Besides its great practical value, it is useful in training the memory and the senses.

Remembering, then, what an important subject spelling is, let us determine what is our especial work in the subject—that is, what words we shall teach. But before deciding on our own list of words, we must look carefully over the spelling list of grade 2A, to see what the children already know, so as not to repeat any word of that grade in our own list, and also to get an idea of the child's capabilities, in order to determine what he may best be taught next. We are then ready to make our own list.

The course of study calls for words from readers, from other lessons of the grade, and from the child's vocabulary. As different readers are used in different schools, I can not give a list of words from readers, although many words in the list from the child's vocabulary will be found in the readers. The following words are, I think, part of a child's vocabulary: store, butter, sugar, meat, eating, salt, coffee, tea, bread, napkin, bowl, pudding, starch, polish, buttons, lemons, fork, spoon, knife, dishes, water, soap, scrub, floor, lamp, matches, cook, washing, blanket, dress, cotton, thread, muslin, needle, paper, rubber, house, home, grandma, sister, table, food, thanks, supper, dinner, party, story, books, pencil, river, James, Mary, Edward, Mabel, David, Ruth, going, know, buying, soon, longer, broke, asked, singing, passed, slow, some, sharp, until, went, gave, hands, looked, ride, mixing, spend, wrote, took, carry.

Next we must find words from other lessons of the grade. From nature lessons we get the following list: horse, goat, camel, sheep, deer, robin, canary, bluebird, cricket, buttercup, marigold, radish, date, maple, oak, spruce, nest, wool, spring, fall, winter, summer, garden, seedling, wings, stars, sun, moon, stem, insect, potato, lemon, bees, honey, clover, scratch, turkey, willow, horns, green. From arithmetic we get the words pint, cent, dime, nickel, inch, foot, yard, week, month, year, three, five, seven, dollar. These words, combined with those from the readers, will make a list of at least two hundred words.

Besides this list, we must have lists of words containing a common phonetic element. Some readers require the teaching of phonetic elements and blend words, and when such is the case the blend words may be taught as a spelling list. When no such phonetic work is done the teacher must make her own list of series words, using such simple elements as ing, est, it, ate, at, on, un, ist, ick, ight, itch, en, an, im, ig, elt, and, ent, old, ish, etc.

Having, then, decided what to teach, we must next decide how to teach. The following plan has been used successfully: The list of new words for the day should be written on the blackboard. On another board should be written simple sentences, with blanks, which children fill, left for the new words. The sentences should be such that when completed the meaning of the new word is plain. Next have children concentrate their attention on the word, studying silently for a minute or two, after which the word is copied on paper a sufficient number of times to impress the form on the child's mind. The teacher should watch the writing carefully, to see that no mistake is made. So far we have appealed to the visual and muscular senses, but not to the sense of hearing. In order to do this, let a number of children repeat the word aloud. Continue in the same way until all of the new words (three or four) have been taught.

So much for the new. But we must always review. Have rapid oral spelling of review words around the class. If a child fails, he is sent to the board, on which the misspelt word is written a sufficient number of times to have it impressed, and then is spelled orally. After this oral spelling around the class, strips of paper should be distributed and a list of fifteen or twenty words dictated. Any word misspelt on these papers should be corrected in red ink, and the next day the papers should be returned to the children, and the mistakes corrected. To give a spelling lesson of this kind requires about thirty minutes, but the results warrant the expenditure of time.

Nature Study—Grade 3B.

By Ida M. Brown, P. S. 55, Brooklyn.

CATERPILLAR, MOTH, BUTTERFLY—FALL TERM.

First Stage.—Egg.
Second Stage.—Caterpillar.
Third Stage.—Chrysalis—uncovered or in a cocoon.
Fourth Stage.—Moth or butterfly.

1. *Egg.*

Eggs are laid where the caterpillar's proper food is abundant—generally on the leaves of certain trees or plants. Collectors who raise butterflies from eggs take care to provide fresh leaves of the kind on which the eggs were found. That is always the kind the caterpillars prefer, though they will often eat other kinds, too.

2. *Caterpillar.*

After a while the eggs hatch, and from each comes a little caterpillar, which immediately commences eating. Some devour the eggs they came from. Caterpillar has twelve rings or segments besides the head, and has 10-16 legs. Caterpillar eats constantly, and grows fast. Does much harm to plants and gardens. Skin finally gets too tight and splits, and the caterpillar crawls out, leaving old skin like old coat. Eats more, and loses this skin like the other. Generally changes skin four times before it goes into the chrysalis state. Caterpillar has little conical spinneret in center of lower lip, from which silk is spun for cocoon or thread to fasten up chrysalis to leaf.

3. *Chrysalis and Cocoon.*

When the caterpillar is ready to turn into a chrysalis it spins a little tuft or button of silk to the under side of a leaf into which it fastens its hind legs by their little hooks. Then it lets go the hold of its other legs and hangs head down with its body curved. Remains so 24 hours, then coat is thrown off and chrysalis is developed, as in II. Takes only a few seconds to shed skin. Soft at first. Hardens in an hour. All butterflies do this.

3. *Cocoon.*

Some caterpillars spin cocoons for the chrysalis. When they are ready to change they spin silk from their spinnerets, looping it all about themselves, and fastening themselves to a twig, etc. They toss the head about to scatter the silken threads around them till the cocoon is done. Remain in cocoon or chrysalis generally several months. Some cocoons woven of caterpillar's own hair.

4. *Butterfly or Moth.*

When the butterfly or moth is nearly ready to come out, the cocoon or chrysalis often moves a little, perhaps even turns over. The chrysalis splits open and butterfly comes out. Weak at first. Wings are all folded up tight to fit into cocoon or chrysalis. Very delicate then—easily injured. After a while butterfly or moth shakes out its wings and flies.

Some butterflies eat with long spiral tongue—nectar, sweet liquids. Many do not eat at all. Do not live long. Wings are covered with beautiful colored scales like feathers. Antennæ knobbed or thickened at end. Always fly by day. Moths and butterflies never grow.

Butterfly.	*Moth.*
1. Knobbed antennæ.	1. Antennæ not knobbed.
2. Fly always by day.	2. Fly chiefly at night.
3. Wings erect when at rest.	3. Wings flat at rest.
4. Always has chrysalis, no cocoon.	4. May have cocoon.

Enemies.

A very large percentage of cocoons and chrysalides never open, owing to ichneumon flies. Would be overrun with caterpillars if it were not for them. Fly stings the caterpillar in the back, and deposits its eggs there. Caterpillar spins its cocoon or changes to chrysalis but never comes out again. Fly's eggs are hatched and little worms feed on caterpillar, leaving only the shell. Grow and finally change into ichneumon flies. Break the cocoon or chrysalis and come out. Look like yellow wasp with clean bluish wings.

Other Enemies.—Birds, collectors. Often burned by lights. Dragon-flies.

Butterflies *never* spin cocoons. Some moths do.

THE MOSQUITO—FALL TERM.

1st stage, eggs.
2d stage, larvæ ("wrigglers").
3d stage, pupæ.
4th stage, mosquitos.
3 weeks from
egg to maturity.

I. Egg.

Eggs are laid in fresh water—pond, rain-barrel, etc. They are sticky, and 250-350 of them stick together side by side like a little raft or boat. This floats about on the water a few days. Will not sink or break up or turn over, nor even freeze.

II. Larva.

After a few days eggs hatch and little larvæ or "wigglers" come out. When all the eggs are hatched and empty the egg-shell boat breaks up, and is destroyed by the weather. Little larvæ very active, swim and squirm about in water. Eat, live so 5-15 days; changing skin 2 or 3 times, then become pupæ.

III. Pupa.

After 5-15 days larvæ become pupæ. Do not eat them. Can swim. Active and quick. Pupa stage lasts 5-10 days.

IV. Mosquito.

After 5-10 days the back of the pupa splits open, and mosquito comes out. It stands on the pupa and floats about till wings get dry, and it gets strong enough to fly. Many are drowned at this stage, or devoured by fishes, reptiles, and other insects, and by birds and bats.

Appearance.

Legs.—6 long, jointed.

Antennæ.—Long. Have a sucking *proboscis* with a tiny sharp lancet to pierce skin. Smaller than point of needle. Secretes a poisonous juice which causes great itching. Sucks blood up through proboscis.

Wings.—Two gauzy, veined, transparent.

Food.—Probably vegetable juices, as many never get blood. *Only females bite.* Blood. Dew.

Buzz.—Have an annoying buzz, probably produced by wings, which move very rapidly.

Enemies.—Man, birds, bats, fishes, reptiles, other insects. Driven away by smoke smudge, mosquito bars, and chemicals, rubbed on body—pennyroyal, etc. Dragon-flies.

Said to be a cause of malaria.

DRAGON-FLY—FALL TERM.

1st stage, egg.
2d stage, larva.
3d stage, pupa or nymph.
4th stage, dragon-fly.
2 years from egg
to maturity.

I. Egg.

Eggs deposited below surface of water on aquatic plants.

II. Larva.

Eggs hatch and larvæ crawl stealthily along bottom of pond or river hunting for insects. Even attack fish. Great eaters. Dispose of many insects, etc. Live so, in water, several months, changing several times. Can propel themselves through water. Lower lip can be shot out nearly an inch after insects. Pair of forceps at end. Sure and quick. Folded flat over face at rest.

III. Pupa.

Great insect catcher. 10-11 months spent in this and larva stage. After a while wings show, and pupa skin gets dry and transparent. Then pupa leaves water, crawls up the stem of a water plant till at right height. Clings tight with its claws, then back of pupa bursts and dragon-fly comes slowly out.

IV. Dragon-fly.

Insect suns itself several hours on the plant to get dry and strong. During drying bends body into a crescent, so delicate body will not be hurt by touching other substances. Then shakes out its closely-folded wings and flies away, to lie in wait for insects.

Appearance.

Body.—Long, flattened. Soft. *No sting.* Beautiful colors.

Eyes.—Large, brilliant.

Wings.—Four large, nearly alike in size. Very beautiful, iridescent

—blue, green, red, purple, etc. Expanded at rest. Strong, light, delicate. Graceful, quick flyers. Vibrate very fast. Veined, lacy wings. Colors fade after death.

Food.—Mosquitos, insects of all kinds, eat even their own kind. Sit on fences, etc., and dart after them. Very useful. Live near rivers and ponds. Eat butterflies.

Life.—Live a few weeks, then die.

Common Name.—Devil's darning needle.

Legs.—Short. Six.

THE LADY-BUG OR LADY-BIRD—FALL TERM.

A Beetle.

Size.—Small, round. Pretty.

Color.—Commonly red or orange with black spots.

Legs.—Six, quite long. Feet hooked.

Eyes.—Two, compound.

Antennæ or feelers. Two.

Mandibles.—For catching and holding prey while eating. Chew food.

Wings.—4. Two are transparent, filmy, folded up under two strong outer ones for their protection. Outer, colored, thick, opaque.

Food.—Aphides on plants. Very useful. Should be protected. Destroys thousands of aphides, both when it is in larva and in insect state. Liked by gardeners.

History.—Egg, grub or larva, pupa, lady-bug.

I. *Eggs.*—Eggs are laid in spring in clusters on plants where aphides abound. Laid in clusters. Yellowish. Disagreeable odor.

II. *Grub* or *larva.*—Small, blueish, flattened, spotted with red or yellow. Like a lion among the aphides.

III. *Pupa.*

IV. *Lady-bug.*

"Lady-bug, lady-bug, fly away home,
Your house is on fire and your children will burn."

THE TURTLE—FALL TERM.

Size.—A few inches to 8 feet long. Many varieties.

Appearance.—Soft body protected by hard, thick shell. Head and legs sometimes protected by extra shelly coverings. Turtle can draw head, legs, and tail entirely within shell when alarmed. Body flattened for swimming.

Head.—Flat. Strong, sharp, powerful, notched jaws. Can bite. Looks like bird's beak. Hooked.

Eyes.—Large, prominent. Lids, opening vertically.

Legs.—Flattened, fore-legs very long for swimming. Some turtles have nails. Awkward on land. Sea-turtles fine, fast swimmers. Slow walkers on land, rely on hard shell to escape injury.

Tail.—Not very long. Rudder in swimming.

Neck.—Generally short, thick.

Call.—Loud hiss. Some mew like kitten.

Food.—Insects, flies, sea-weeds, grasses, young plants, mollusks, sea animals, fishes, etc.

Home.—Some live wholly on land, some in water, some both. Dig hole, bury themselves in winter.

Eggs.—Laid on beach, above high water; 150-200, round, white. Turtle digs hole 1½ inches deep with hind feet. Laid toward end of spring. Eggs carefully covered with sand smoothed over, so as not to look disturbed. Come back to same spot year after year. Eggs hatch in 8-9 weeks by heat of sun. Eggs 2-3 inches in diameter. Good to eat.

Young.—Shell soft. Vast quantities eaten by birds and fishes.

Habits.—Timid, generally. Easily tamed. Long-lived. Hard to kill—seem not to mind bad wounds. Caught by spearing, in nets, turning on backs, etc. Many cannot turn over again because shell is so flat. Can go long without food. Slow, awkward.

Use.—Many used as food—green turtle, terrapin, etc. Eggs for food. Good illuminating oil from fat, also oil something like cod-liver oil. Shells of large sea-turtles used for small boats, watering-trough, child's bath-tub, soldier's shield. Valuable tortoise shell from one kind for combs, knife handles, ornaments, etc. Can be melted, and poured into molds. Common turtles useful for catching injurious insects, etc.

THE SNAKE—FALL TERM.

Body.—Long, covered with scales. Outside of scales skin, often shed. Snake dull then, does not eat. Many beautifully colored. Graceful.

Tail.—Pointed. Rattle snake has rattles here, like a set of thimbles thrust loosely one inside the other. Noise made by rubbing them together.

Legs.—None. Creeps and glides by bending body—flat scales pointing backward catch ground and help. Travels very fast. Snake trails on dusty roads in country.

Mouth.—Opens very wide. Has sharp teeth, pointing backward. Prey cannot escape. Swallowed whole. Poisonous snakes have two poison fangs connected with teeth. Cause death. Soft, forked, harmless tongue used as a feeler. Long, black. At rest in a sheath. Fangs generally removed by "snake charmers."

Color.—Generally like surroundings. Some iridescent.

Eyes.—Always open—no lids.

Call.—Hiss when angry. Rattlesnake rattles.

Size.—6 inches—20-30 feet. Male the smaller. Grow slowly. Cold-blooded. Like warmth.

Food.—Frogs, mice, rats, squirrels, birds, other snakes, insects, rabbits, etc. Attack only living prey. Can fast a long time. In captivity snakes often must be forcibly fed. Go for months without it. Food swallowed whole. Body very elastic. Can swallow animals bigger around than themselves. Some pursue prey, some fascinate, some kill by crushing, some poison.

Habits.—Can climb trees to rob birds' nests and kill young, can swim, suspend themselves by tail, burrow in ground, constrict, raise body almost erect, creep, spring. Body coiled, head raised when ready to attack. Generally timid, prefer to escape rather than fight. Some live in water. Fascination.

Eggs.—Chain of soft white eggs laid. Hatched by sun. Young small, but perfect. Eggs hidden.

Hibernates.—Dislikes cold. When cold weather comes lie torpid in holes or in marshes, many coiled together. Lively in hot weather.

Poison.—Indians tip arrows with it.

Use.—Non-poisonous snakes useful—kill injurious animals—rats, etc. Also eat insects.

THE CRAB—FALL TERM.

Size.—Size of a penny to 10 feet. (Japanese.)

Color.—Varies. Often very pretty. Mottled.

Eyes.—Large, prominent, compound, movable eyes on stems. Acute sight.

Shell.—Hard, to protect soft body underneath. Sharp points on edge of shell for protection. Moults often. New shell very soft. "Soft shell crabs." Can not protect themselves then. New shell hardens slowly. Seeks shelter then.

Antennæ.—2 pairs. Organs of touch and hearing.

Tail.—Doubles under body. Fits into a groove.

Legs.—10. First pair have pincer-like claws. Catches prey with them—holds it fast. Can pinch. Sharp toothed, hooked. Can pick up anything with them or crush very hard material. Side claws thin and sharp to dig with and walk with. Last pair of legs flattened into paddles for swimming. Fast swimmer. Legs hinge-like. Can swim or walk backwards, forwards, sideways without turning. Run fast. Sometimes lose claws in moulting or fighting. Can detach them when caught by the claw. Claw grows again.

Food.—Sand fleas, water animals, other crabs, fish, dead animals, mollusks, etc. Pounces on prey. Tears it to pieces with claws.

Eggs.—Young hatched from eggs laid in water.

Young.—At first little round swimming animals—no legs nor claws. They grow later. Enormous eyes. Casts skin often—grows fast.

Use.—As food. Caught in nets, crab baskets or traps, or by means of meat on a string.

Habits.—Quick, active, fearless. A great fighter. Kills and eats other crabs. Clever. Hermit crab with soft body lives in cast-off shells. Most live in the sea, some in fresh water, some on land. Found along the shore. Bury themselves in the sand. Can breathe under water.

Enemies.—Man, fishes, birds.

The Lobster—Fall Term.

Size.—1 to 2 feet.

Color.—Generally greenish. Turn red when cooked.

Shell.—Horny, many-jointed. Sheds shell in one piece, perfect, just like the lobster even to eyes, claws, tail, and hairs. New shell very soft at first. Lobster defenseless—hides in crevices of rocks to escape other lobsters and fish till shell hardens, in a few days. Lobster grows while new shell is soft; cannot when it is hard.

Eyes.—Two movable, on stems. Keen sight.

Antennæ.—Two *very* long, many-jointed. Used to feel with.

Tail.—Long, powerful, fan-shaped. Swims by straightening out tail, spreading it like fan, then snapping it back against body. Body darts *backward* 10-15 feet, very fast. Graceful in water.

Legs.—Four pairs of common legs and 1 pair of immense front ones or claws.

Claws.—Extremely large and powerful. Can pinch off a man's finger. Will not let go—would rather lose claws. Dangerous to handle. Fishermen put plug of wood in claws to prevent their fighting after capture. One claw has blunt teeth for crushing shells, etc., the other has sharp teeth for holding prey and pinching. Can crawl—quite slowly. Often loses claws in fights, etc. New ones grow in same place. A sudden noise like thunder will make them shed claws. Can burrow in mud with legs.

Food.—Entirely animal—meat, mussels, clams, oysters, etc.

Eggs.—Round, reddish or blackish, glued together with sticky fluid. Attached to body. Young stay near mother for protection. Young like adult in shape, but small.

Habits.—Can breathe under water. Great fighters. Very quarrelsome. Caught in baskets or traps, baited with meat. Often something shiny like oyster shells or bottles put in trap, too. They seem to attract them.

Use.—As food. Not good to eat while shedding shell.

Goldfish and Minnows—Fall Term.

Size.—Small.

Color.—Goldfish reddish-yellow. Minnow grayish.

Eyes.—Large, staring. No lids. Always open.

Breathe.—By gills. Die out of water. Sometimes goldfish come to top of jar to breathe, if it is too small to admit much air. Breathe then with audible gulps.

Body.—Red blood. Shaped long and thin to admit of fast swimming. Flexible. Covered with overlapping scales—slips through water smoothly. Skeleton.

Mouth.—Organ of touch. Has teeth.

Hearing.—Poor.

Fins.—Several fins, like thin fans to balance body and to steer with.

Tail.—Swims by means of tail principally. Used like an oar. Fast swimmer.

Eggs.—Eggs in sticky masses. Young take care of themselves. Eaten in great numbers by fishes, birds, reptiles, frogs, etc.

Habits.—Do not mind cold. Like animal food. Not much intelligence. Goldfish kept as pets—pretty. Came from China. Water changed in fish globe—clean. Moss necessary in it.

THE FOX—FALL TERM.

Size.—2½ feet long, without tail, 1 foot high. Lower than dog or wolf.

Color.—Yellowish, reddish, white, black, gray, bluish.

Head.—Long. Whiskers short. Does not creep through holes.

Nose.—Called muzzle. Pointed. Keen scent.

Ears.—Triangular, large, erect. Good hearing. Pointed.

Eyes.—Keen sight.

Tongue.—Smooth, wet, like dog's.

Teeth.—For tearing and grinding.

Legs.—Long, slender. Fine runner and leaper. 5 claws on front foot, 4 on back, like dog's. Straight, blunt claws, not sheathed. Will not draw up. Foot not so well padded as cat's. Can not climb trees.

Tail.—Very long—nearly as long as body. Very bushy. Round. Called "brush."

Voice.—Varies greatly. Yelps.

Food.—Birds, turkeys, geese, chickens, ducks, shell-fish, lobsters, etc., rabbits, rats, mice, squirrels, fish, cheese, insects, fruit—grapes. Disliked by farmer—carries away his poultry to his den in woods. Hunts singly.

Home.—Lives in burrows scooped out with paws, often winding in among roots of trees and large stones. Steals burrows of other animals.

Young.—Snub-nosed, do not look like foxes. Mother very fond of them. Eyes closed. Carried about by nape of neck, like cats and dogs.

Habits.—Sly—most crafty of animals. Suspicious—not often trapped. Great runner, often leaps to one side to break scent when hunted. Very often escapes. Many tricks to save itself. Doubles on tracks. When caught pretends to be dead, then jumps up and runs away. Often kept as pet. Shy, unsociable, cleanly. Called "Reynard."

Fur.—Valuable. Twice as thick in winter as in summer. Hair long, glossy. Is often dyed.

Fox.	*Dog.*
Teeth, eyes, claws, number of toes, same in both.	
Not very affectionate.	Affectionate.
Crafty.	Intelligent.
Better hearing, etc., than domestic dog. More needed.	
Long head.	Rounder head.
Lower than same-sized dog.	Higher than fox.
Yelps.	Yelps.
Carries young by nape of neck, as does dog.	
Shy.	Very sociable.
Smooth, wet tongue.	Smooth, wet tongue.
Fine runner.	Good runner.
Fur valuable.	Fur not valuable.

THE WOLF—FALL TERM.

Size.—4 feet long. Gaunt, fierce-looking. Looks much like fox.

Color.—Gray, dirty white, black.

Ears.—Like fox's.

Tail.—Like fox's, generally shorter.

Teeth.—Very sharp, strong. Kills prey by repeated snapping bites. Does not bite and hang on like most flesh-eaters.

Legs.—Strong. Has a slouching, long, tireless gallop that wears out the swiftest foe.

Call.—Howls, barks. Makes a great noise. Snarls.

Home.—Live in burrows. Nest lined with dry moss and fur that the mother tears off her own body.

Food.—Almost any animal—man, cows, horses, sheep, dogs, calves, buffalos, deer. Will even eat insects, frogs, lizards. Other wolves, kill and eat sickly wounded wolves. Almost always hungry. Hunt in bands, and overcome animals they could not injure singly.

Habits.—Fierce when in bands and hungry. Cowards alone. Cautious, suspicious. Hard to trap. Afraid of anything unknown. Bold, ferocious. Great fighters. Hated by everyone. Greedy. Will eat even leather harness when hungry. Feigns death like fox when captured. Cowardly in traps. Affectionate when taken young for pets. Very noisy, quarrelsome.

SEPTEMBER.

Flowering Plants.—Recognition and name of flowers, color, odor. *Coreopsis, dahlia, gladiolus, tuberose, chickweed, Jamestown weed. wild carrot, hydrangea.*

Birds.—Plumage, song or call, habits, food, size, color, motions, uses, feet and bill. *Chickadee* and *snipe.*

Insects.—*House-fly, mosquito.*

OCTOBER.

Birds.—*Owl, woodpecker.*

Stone-fruits.—*Melons.*

Insects.—Head, body, legs, wings, feelers, distinctive markings, breeding places, food movements, uses to man, dangers to man.

Monarch butterfly, caterpillars, metamorphosis. *Dragon-fly. Beetle.*

Trees.—Arrangement of leaves, parts of leaf, scars left on stem by falling leaves and fruit, ring scars and cause.

Sumach, birch, poplar, ailanthus, oak.

Collecting and *mounting* of *leaves.*

NOVEMBER.

Birds.—*Blue-jay, crow, gold-finch, nuthatch. Cocoons.*

Trees.—*Horse-chestnut, maple, hickory, elm.*

Fruit and *Seeds.*—How seeds are protected while ripening. Dispersals by wind, animals, birds. Attachment of seed. Collection of dry fruit and show form and method of dispersal.

Pumpkin, cranberries, nuts, burrs, pods, burdock, beggar's ticks, stick-tights.

DECEMBER.

Trees.—*Cedar, pine.*

Birds.—*English sparrow, eagle, ostrich.*

Animals.—Characteristics, covering, food, uses, movements, home, habits.

Wolf and *fox,* compared with *dog.*

Turtles. Snakes.

JANUARY.

Minnows, goldfish, lobster, crab.

Experiments:

Where does sap rise through stem and leaves?

Why do leaves wilt?

How do leaves move in reference to light?

Do leaves give off water?

Language Drills in 3A and 3B.

By Jessie L. Pointer.

THE majority of the children attending our public schools have not the proper home environment to afford them constant practice in correct expression. No one topic under the vast subject of English seems of greater importance than that of *verb forms*. Is it not then the teacher's duty, as well as her pleasure, to give frequent and varied drills on the correct forms in the use of the parts of the verbs? With the little folks this work may be made very interesting. The method to be employed will not only aid in improving expression, but also in developing increased ability to carry a given sentence.

When the subject of verb forms is introduced in the 3A, we are not to expect the little ones eight and nine years of age to understand the reason *why* certain forms are used. These reasons are to be left until the children reach a more advanced stage, and until then the results will be obtained by good attention and by good models for copy. Why not, then, employ the method of introducing the verbs in story form? The teacher tells the story twice, emphasizing (so as to be very noticeable to her hearers) the forms of the verb, wherever they occur throughout the story. It is much better to tell the story than to read it. This done, the teacher gives each child in the class a question to be answered in a whole sentence. It will surprise you how readily the answers will be given. thus the teacher will get her entire story from the individuals. The next period you have planned to devote to a verb drill, write the story on the board, omitting the forms of the given verb. Have the children copy the story, filling in the blanks with the forms of the verb which they think are correct. Then the children will have written the story told in the previous lesson. The same plan may be followed for each verb in the 3A and the 3B; but if a teacher of the 3B is desirous of making the work still more varied, for a third lesson she may write the questions on the board and the children write the answers on paper which, when completed, will be the original story.

3A—Verb Stories.

Is—Are. Contrast.

(Story.)

John *is* not a good boy. He *is* very mischievous. John *is* not obedient. He *is* unkind to the cat. John *is* not smart in school. I think John *is* a horrible boy.

John's brothers *are* good boys. They are not mischievous. The brothers *are* obedient. They *are* kind to the cat. John's brothers *are* smart in school. I think they *are* nice boys.

(Questions.)

Is John a good boy?
Are his brothers good boys?
Is John very mischievous?

Are the brothers mischievous?
Is John unkind to the cat?
Are John's brothers unkind to the cat?
Is John smart in school?
Are the brothers smart in school?
Do you think John *is* a horrible boy?
Do you think his brothers *are* nice boys?

Was—Were.

(Story.)

Kate *was* to school yesterday. Her sisters *were* in the country. Kate *was* at her grandma's last night. Her brothers *were* at home. Kate *was* anxious to come home this morning. Her sisters *were* anxious to stay away for a week.

The whole family *were* away in the country last summer. Their grandma *was* with them. They *were* up in the Catskills. They *were* away two months.

(Questions.)

Was Kate to school yesterday?
Were her sisters in the country?
Was Kate at her grandma's last night?
Were her brothers at home?
Was Kate anxious to come home this morning?
Were her sisters anxious to stay away for a week?
Were the whole family away in the country last summer?
Was their grandma with them?
Were they up in the Catskills?
Were they away two months?

Has—Have.

(Story.)

Our baby boy *has* golden hair. The baby *has* no teeth. He *has* a rattle. Baby *has* a high chair. The baby *has* a nurse. He *has* no books. Our baby *has* many years to grow.

Baby's sisters *have* dark brown hair. They *have* teeth. The sisters have many dolls. They *have* ordinary chairs. Baby's sisters *have* no nurse. They *have* books to read. They *have* not as long to grow as baby.

(Questions.)

Has our baby boy golden hair?
Has the baby no teeth?
Has he a rattle?
Has baby a high chair?
Has the baby a nurse?
Has he no books?

Has our baby many years to grow?
Have baby's sisters dark brown hair?
Have they teeth?
Have the sisters many dolls?
Have they ordinary chairs?
Have baby's sisters no nurse?
Have they books to read?
Have they as long to grow as baby?

3B.—VERB STORIES.

Do.

(Story.)

Mary and Kate had an afternoon party. Their aunt *did* most of the work. Their oldest sister *did* a little too. The aunt has always *done* this for them. The little guests *did* what they were told to *do*.

The dog *did* his best to amuse the children. Tip, the cat, *did* some tricks too. At seven o'clock the parrot said, "Children, have you *done* your homework?" Then the little folks said their good-byes.

(Questions.)

Did Mary and Kate have an afternoon party?
Who *did* most of the work?
Did their oldest sister *do* a little too?
Has the aunt always *done* this for them?
Did the little guests *do* what they were told to do?
Did the dog *do* his best to amuse the children?
Did Tip, the cast, *do* some tricks too?
At seven o'clock did the parrot say, "Children, have you *done* your homework?"
Did the little folks then say their good-byes?

See.

(Story.)

The boys went to the circus. They *saw* all the animals. They *saw* the monkeys climb the trees. The boys *saw* the dogs dance. They *saw* the cats jump through the hoops.

They *saw* the elephant drink out of a bottle. The parrot said, "Have you *seen* our baby elephant?" The boys *saw* all there was to be *seen*.

(Questions.)

Did the boys go to the circus?
Did they *see* all the animals?
Did they *see* the monkeys climb the trees?
Did the boys *see* the dogs dance?
Did they *see* the cats jump through the hoops?
Did they *see* the elephant drink out of a bottle?

Did the parrot say, "Have you *seen* our baby elephant?"

Did the boys *see* all there was to be *seen?*

Come.

(Story.)

Elsie's cousins lived in the country with their kind mother. They *came* home from school early. They *came* by the shortest road. The children *came* home with their little neighbors. Sometimes they *came* through the woods. The children *came* promptly when their mother called.

The mother went away for a visit. When she *came* home the children shouted, "Mother has *come* back to us again."

(Questions.)

Did Elsie's cousins live in the country with their kind mother?

Did they *come* home from school early?

Did they *come* by the shortest road?

Did the children *come* home with their little neighbors?.

Did they sometimes *come* through the woods?

Did the children *come* promptly when their mother called?

Did the mother go away for a visit?

When she *came* home, did the children shout, "Mother has *come* back to us again."

Go.

(Story.)

Grace *went* to a party. She *went* only across the street. Her brother Jack *went* alone. They *went* at two o'clock. The children *went* through the garden for a walk. They *went* into the barn to play games.

At five o'clock the little ones *went* into the house for supper. At six o'clock they *went* home. Jack's uncle said, "Children, have you ever *gone* to the circus?" On Saturday Grace and Jack *went* to the circus.

(Questions.)

Did Grace *go* to a party?

Did she *go* only across the street?

Did her brother Jack *go* alone?

Did they *go* at two o'clock?

Did the children *go* through the garden for a walk?

Did they *go* into the barn to play games?

At five o'clock did the little ones *go* into the house for supper?

At six o'clock did they *go* home?

Did Jack's uncle say, "Children, have you ever *gone* to the circus?"

On Saturday did Grace and Jack *go* to the circus?

It is not necessary to use the given questions, if the teacher wishes to use more indirect ones which will require more thought on the part of the child. If the third lesson indicated above is not used in the 3B, it may be employed in the 4A with the verbs mentioned for that grade.

Compositions and Poetry in the 4A Grade.

By Lucy S. Taplin, P. S. 59, Brooklyn.

WRITTEN reproduction is begun during the first half of the fourth year. That the children may have a good foundation, it is essential that the compositions of the first month should be entirely imitations of models or review of language work along this line studied in preceding grades. These forms should not be placed before the children to be copied, as mere penmanship exercises. Let the child imagine that he is giving the sentences and that the teacher is but writing his thoughts. By skilful questioning this may be done, and the child will enjoy "building up" the composition. The subjects may be made attractive through correlation with the nature work of the grade, but should not be so absorbing as to distract the attention of the children from the fundamental principles in the formation of sentences and paragraphs. Special attention should be given to the sequence of paragraphs.

At all times, both in conversation and in written work, abundant exercise should be given in the correct use of parts of irregular verbs frequently misused. Emphasize particularly the verbs "do," "see" and "go."

Writing from questions or topics may be begun during the second month. Subjects may now be selected from the nature, geography, history or current events.

It would be to advantage not to attempt having the children reproduce without aid from the teacher subject matter from their silent reading until the fourth month of the term. Then, if their original compositions are corrected while they are being written, this work will be of much benefit to the children.

The attention of the child should be called to the necessity of eliminating all non-essentials in short reproduction, and they should be led to distinguish between important and unimportant items.

Model compositions should be short and simple. The following is suggested:

SNAILS.

Habits; Characteristics; Food.

Snails live in damp places. In cold weather they crawl under a stone or log. They draw the body into the shell. They spend the winter in a numb state.

The snail has a soft body and a hard spiral shell. On the head are two pairs of feelers. At the end of the head is the mouth.

Snails eat tender leaves and fruit. They feed mostly in the night time. They will often spoil a garden in a single night.

CIRCE.

For reproduction from questions the children might be told the story of the adventures of Ulysses at the home of Circe.

Circe was a sorceress, noted for her magic arts, who lived on an island near the coast of Italy. Ulysses, a king and one of the Greek leaders in the war against Troy, stopped at her island. He sent some of his sailors to Circe to ask her for food. She gave them meat and drink, and while they were eating turned all of them, excepting one who had remained outside, into pigs. The sailor who had been saved went back to the ship and told Ulysses what had happened. Ulysses, aided by Mercury, who had given him a magic herb that saved him from Circe's enchantments, went to her palace and made her turn the pigs back to men. She liked Ulysses, and he and his men stayed on the island one year.

Questions.

Who was Circe? For what was she noted? Where did she live?

Who stopped at her island? For what did he send his sailors to her? What did she do to the sailors while they were eating?

What did Ulysses do? What did he carry with him? What did he make Circe do? Where did he and his companions stay for one year?

Oral reproduction from questions or topics should precede written work.

Answers.

Circe was a sorceress. She was noted for her magic arts. She lived on an island near the coast of Italy.

Ulysses stopped at her island. He sent some of his sailors to her to ask for food. While they were eating she turned them into pigs.

Ulysses went to her palace. He carried an herb that saved him from Circe's charms. He made her turn the pigs back to men. He and his companions stayed on her island for one year.

As a broadening influence on the child's mind, current events should be discussed even in the fourth year. Occasionally some matter of general interest, such as the opening of the subway, should be used as a subject for written composition.

THE SUBWAY.

New York has the greatest subway in the world. It was opened to the public Thursday, October 28, 1904.

Ground in front of the City Hall was broken for the road on March 25, 1900. Since then about four thousand men have worked on it daily. The subway is thirteen miles long.

So far, the cost is nearly forty million dollars. It is expected that two hundred million passengers can be carried yearly.

LETTER WRITING.

Few children are able to compose even a simple letter to a friend. They know, as a rule, still less about the form. It being of practical use to them to be able to write notes of sympathy, regret, gratitude, etc., models should be given them to be studied and copied.

The following points should be considered:

1. Date.
2. Salutation.
3. Body.
4. Closing sentence.
5. Signature.
6. Address on envelope.

658 Leonard Street,
BROOKLYN, N. Y.,
Oct. 28, 1904.

DEAR JAMES:

The very pretty copy of "Little Lord Fauntleroy," came this morning. The illustrations are fine, and I am sure that I shall enjoy the story. I have already finished the first two chapters.

I received, also, a new book from mother. It is called "The Little Lame Prince." I shall be glad to have you read it when you come to visit me.

Thanking you very much for my birthday gift, I am

Your friend,
JOHN L. HALL.

POETRY.

Selections may be made from—
"The Night Wind."—*Field.*
"The Children's Hour."—*Longfellow.*
"Jack Frost."—*Gould.*
"Robert of Lincoln."—*Bryant.*
"He Prayeth Best."—*Coleridge.*
"The Wreck of the Hesperus."—*Longfellow.*

Before teaching any of these poems it would be advisable to give the children a short biographical sketch of the author, including some of his best-known works.

It is absolutely necessary, in order to avoid "sing-song" recitation that the children should hear the poems recited with good expression before they commit them to memory. It is also essential that the meaning of every word be made clear.

EUGENE FIELD.

Eugene Field, an American author, was born September 2, 1850, in St. Louis, Missouri. When he was nine years of age his mother died. He then went to live with an aunt in Massachusetts. There he was fitted for Williams College, where he studied for one year. He was graduated from the State University in Columbia, Missouri.

Eugene Field wrote much for newspapers, but is best known to young folks by his poems and stories.

Among his books are "A Little Book of Western Verse," "With Trumpet and Drum," "The Holy Cross and Other Tales," and "Love Songs of Childhood."

He died in Chicago November 4, 1895, at the age of forty-five.

THE NIGHT WIND.

Have you ever heard the wind go "Yooooo"?
  'Tis a pitiful sound to hear!
It seems to chill you through and through,
  With a strange and speechless fear.
'Tis the voice of the night that broods outside
  When folks should be asleep,
And many and many's the time I've cried
To the darkness brooding far and wide
  Over the land and deep,

"Whom do you want, O lonely night,
That you wail the long hours through?"
And the night would say in its ghostly way,
"Yooooo! Yoooooo! Yooooooo!"

My mother told me long ago
(When I was a little lad)
That when the night went wailing so
Somebody had been bad;
And then when I was snug in bed
Whither I had been sent,
With the blankets pulled around my head
I'd think of what my mother said
And wonder what boy she meant,
And "Who's been bad to-day?" I'd ask
Of the wind that hoarsely blew,
And the voice would say in its meaningful way,
"Yooooo! Yoooooo! Yooooooo!"

That this was true I must allow—
You'll not believe it, tho!
Yes, tho I am quite a model now,
I was not always so.
And if you doubt what things I say,
Suppose you make the test;
Suppose when you've been bad some day
And up to bed are sent away
From mother and the rest—
Suppose you ask, "Who has been bad?"
And then you'll hear what's true;
For the wind will moan in its ruefullest tone,
"Yooooo! Yoooooo! Yooooooo!"

HANNAH FLAGG GOULD—1789-1865.

Hannah Flagg Gould was an American author. She was born at Lancaster, Massachusetts. She wrote extensively for magazines and newspapers, and some of her verses were at one time very popular. They are simple and pleasing, with a good moral tone. Among her works are "Gathered Leaves (prose sketches), "The Mother's Dream," and "Hymns and Poems for Children."

JACK FROST.

Some one has been in the garden,
Nipping the flowers so fair;
All the green leaves are withered
Now, who do you think has been there?

Some one has been in the forest,
Cracking the chestnut burrs:
Who is it dropping the chestnuts?
Whenever a light wind stirs?

Someone has been on the hill-top,
 Chipping the moss-covered rocks:
Who has been cracking and breaking them
 Into fragments and blocks?

Someone has been at the window
 Marking on every pane:
Who made those glittering pictures
 Of lace-work, fir-trees and grain?

Someone is all the time working
 Out on the pond so blue,
Bridging it over with crystal:
 Who is it now? Can you tell who?

While his good bridge he is building,
 We will keep guard at the gate,
And when he has it all finished,
 Hurrah for the boys that can skate!

Let him work on, we are ready,
 Not much for our fun does it cost!
Three cheers for the bridge he is making!
 And three with a will for Jack Frost!

William Cullen Bryant.

William Cullen Bryant, an American poet, born in Cummington, Massachusetts, Nov. 3, 1794. He was a very bright boy, and when only ten years old wrote poetry that was thought worth printing. At fourteen he published two long poems called "The Embargo" and "The Spanish Revolution," which were so good that it was doubted whether a boy could have written them. When sixteen years old he went to Williams College, but left at the end of two years to study law.

His poem, "Thanatopsis," considered one of the finest in the language, was written when he was but nineteen. He died in New York at the age of eighty-four.

Samuel Taylor Coleridge.

Samuel Taylor Coleridge was a noted English poet, born in Devonshire, England, October 21, 1772. He was left an orphan when nine years of age, and was sent by a friend, to a school in London. He used to translate Latin and Greek so well, and talk so charmingly, even when a child, that visitors to the school would stop to listen to him. He was called "the inspired charity boy."

The happiest time of Coleridge's life was when he and Wordsworth lived near each other in Somersetshire, and they used to wander over the hills together. It was then that Coleridge wrote "The Ancient Mariner" and "Christobel."

Before learning the selection "He Prayeth Best," the children should hear (told simply) the story of "The Ancient Mariner."

"He prayeth best, who loveth best
All things both great and small;
For the dear God who loveth us,
He made and loveth all."

Composition—4A, 4B, 5A, 5B.

By Sidney M. Fuerst and Elizabeth H. Hale, P. S. 55, Brooklyn.

THE following considerations should be borne in mind in teaching composition in the fourth and fifth years:

I. Present models attractive in style and correct in form.

II. Let their content be such as to touch the children's interests.

III. Correlate their work in history, nature, ethics, etc., with their efforts at written expression.

IV. Let the models be short. This is almost—to impress this point, it may be best to exaggerate—the most important consideration.

Writing is an art. Skill in an art is acquired by drill, practice. There is a great difference in ability between the newspaper writer who can dash off a column, 1,500 words or so, in an hour, and the boy of nine who is ready to learn the art of setting his thoughts on paper. Therefore, the teacher must not expect too much of the pupil.

The amount of concentration which the pupil possesses at this age is limited. The course of study demands that models should be studied and reproduced in the words of the author as nearly as possible. Therefore, there is further necessity that models should be short. How short? I believe from 60 to 75 words in length, possibly 100. If you can get most of your children to write the first or second number of words correctly, correct in orthography and grammar, I believe you are accomplishing excellent work. By the way, the course of study states explicitly that models should be short.

V. In the fourth year the emphasis should be laid on the writing of simple sentences. Nearly all the sentences in the following models are simple in structure. The thought expressed in them is easily comprehended, too.

In the fifth year the sentences should still be simple, but they may be longer, *i.e.*, contain qualifying phrases. If you will insist on short sentences you will avoid the "and" habit, so characteristic of very young writers.

Composition—4A Grade.

(*Four weeks' work, eight periods, two a week.*)

I. Reproduction of a story read or told—1. Fable. 2. Fairy Tale. 3. Myth. 4. Legend.

(*Four weeks' work, eight periods, two a week.*)

II. Reproduction from silent reading—1 and 3, selections from poetry. 2 and 4, selections from prose.

(*Four weeks' work, eight periods, two a week.*)

III. Narration. Reproduction—1, 2 and 3 correlate with the grade work. 4. Ethical.

(*Four weeks' work, eight periods, two a week.*)

IV. Description—1 and 3, model compositions. 2 and 4, imitations of 1 and 3.

(*Four weeks' work, eight periods, two a week.*)

V. Letters—1 and 3, models. 2 and 4, imitations of models.

4A GRADE.

REPRODUCTIONS OF STORIES READ OR TOLD.

Lesson 1.

A FABLE.

The Hare and the Hound.

A hound started to race after a hare. The latter proved to be a capital runner. The hound soon gave up the chase. His master seeing it, said, "The little one is the better runner!"

"Ah, master," answered the dog, "it's all very well to laugh. You do not see the difference between us. He was running for his life. I was running for my dinner."

Outline: The race. Its result. The master's remarks. The hound's reply.

Lesson 2.

A FAIRY TALE.

Jack and the Beanstalk.

Jack lived with his mother. She was a poor widow. A giant had killed her husband and stolen her gold.

One day the widow told Jack to sell her cow. The foolish boy sold it for a few beans. His angry mother threw the beans out of the window.

The next morning Jack found a beanstalk growing outside his window. It seemed to reach the sky.

Outline: Jack and his mother. Selling the cow. The beanstalk.

Lesson 3.

A MYTH.

The Golden Touch.

There was once a king named Midas. His little daughter's name was Marygold.

The king loved gold very much. So he was given the golden touch. Then everything he touched became gold.

At first this gift made the king feel very happy. One day he touched his little daughter. She became a golden statue. Then the king was glad to get rid of the golden touch.

Outline: The king and his daughter. The gift. Effect of the gift.

Lesson 4.

A LEGEND.

The Knighting of the Sirloin of Beef.

Many years ago James I was king of England. One day he and a number of noblemen went hunting.

When they returned, the wind was howling bitterly. The snow fell fast. They were glad to get back to the warm palace and to the royal feast.

At the table, the king helped himself to a loin of beef. He thought this was a royal dish. He said that it ought to be knighted. He therefore named it Sir Loin. It has been called so ever since.

Outline: James I. The return from the hunt. The knighting of the sirloin.

REPRODUCTIONS FROM SILENT READING.

Lesson 5.

The Story of a Flower.

Some little brown flowers grew by the roadside. They were not at all beautiful. They tried, however, to be contented.

A good fairy took notice of their behavior. She felt very sorry for their ugliness.

One morning she placed them on a cushion. She turned them into one tall flower and gave it a golden crown.

The flower feels very happy now. She looks at the sun all day long.

Outline: The flowers. The fairy's interest in them. What the fairy did. What the flower does now.

Lesson 6.

The Disappointed Snowflakes.

Four and twenty snowflakes
  Came tumbling from the sky,
And said: "Let's make a snowdrift—
  We can if we but try."
So down they gently fluttered
  And lighted on the ground,
And when they were all seated
  They sadly looked around.

"We're very few indeed," sighed they,
  "And we sometimes make mistakes;
We cannot make a snowdrift,
  With four and twenty flakes."
Just then the sun peeped round a cloud
  And smiled at the array,
And the disappointed snowflakes
  Melted quietly away.

Outline: What the snowflakes did. What the snowflakes said. The sun and its effects.

Lesson 7.

Good Manners.

Emerson describes good manners by saying, "They are the happy ways of doing things." Acting rudely is not a happy way of doing. To be pleasant, polite, modest, and respectful in doing is what we mean by good manners.

A woman asked King James to make her son a gentleman. "I can make him a baronet," replied the king. "No power on earth could make him a gentleman." Her son's manners were bad. The king thought they could not be changed.—*Thayer's "Ethics of Success."*

Outline: What are good manners. Story of King James.

Lesson 8.

The Coming of Father Christmas.

When darkness has fallen, and stars light the sky,
And the chimes of sweet bells say that midnight is nigh,
Hark! hush! through the stillness, with reindeer in hand
Rideth old Father Christmas from Lullaby Land.

With drums, dolls, and trumpets, his baskets are piled,
For he thinks of the days when he, too, was a child.
He seeks the dear children, their stockings to fill,
While the bells in the towers ring their sweet glad "good will."
—*Adapted.*

Outline: The coming of Father Christmas. What he brings. The bells and what they say.

Lesson 9.

NARRATION—REPRODUCTIONS.

The Cunning Spider.

Once a man put a lady bird at a spider's trapdoor. She took it in to eat. She found it had too hard a shell for her to bite. So she took it back and laid it out by her door.

Then the man put a soft grub by the door. The spider took that to eat. She did not bring that back. She ate it. Spiders now and then eat other spiders, but not often.

Outline: The lady-bird and the spider. The grub and the spider.

Lesson 10.

Henry Hudson.

Henry Hudson sailed from Holland in the Half Moon. He expected to find a short route to India. He saw the mouth of a beautiful river. He thought he had surely found the path to the East.

He sailed past Manhattan Island. He did not pay much attention to it. Then he sailed up the river. After sailing ten days the river became very shallow. Then he had to stop.

Hudson turned about with a heavy heart. He and his employers were disappointed.

Outline: Where Hudson came from and what he wanted. Where he went. The result.

Lesson 11.

A Thoughtless Boy.

One day George was playing in the street. A grocer's wagon drove up to his house. The driver went in to see George's mother. He left the horse untied.

George thoughtlessly threw a stone. It struck the horse squarely in the forehead. The frightened animal ran away.

Some children were crossing the street at the corner. They did not see the horse coming wildly toward them. One of them was badly hurt.

Outline: George and the grocer. George's thoughtless act. The result.

Lesson 12.

The East River Bridges.

There are two great bridges connecting the boroughs of Manhattan and Brooklyn. Each of them is more than a mile in length. You can walk across them or you can go over them in a trolley car.

From these bridges you can see steamers with their tall pipes and masts passing down East river. Ferryboats, too, are seen going back and forth between the two boroughs.

The ferry-boats used to be the only means of crossing from Brooklyn to New York. Now the bridges make it easier for the people to go back and forth.

Outline: The two bridges. What may be seen from the bridges. Crossing the river.

Lesson 13.

MODEL COMPOSITION—STUDIED AND REPRODUCED.

DESCRIPTION OF A PERSON.

Little Marie of Lehon.

There she was, trotting toward us in her round cap, blue woolen gown, white apron, and wooden shoes.

On her head was a loaf of buckwheat bread as big as a small wheel. In one hand she held a basket full of green stuff. With the other she led an old goat, which seemed in no hurry to get home.

She was a rosy, bright-eyed child. She looked rather shy and always seemed in haste.

Outline: Her clothes. What she had with her. Her face and manner.

Lesson 14.

(Imitation of model in Lesson 13. Description of a person seen.)

Outline: The person's clothes and position. What the person had. The face and manner.

Lesson 15.

Description of a Picture.

A Fascinating Tale.

The Fascinating Tale was painted by Madame Ronner. She spent many years in painting pictures of cats and dogs.

This picture shows three kittens in the library. They are playing among the books on the table.

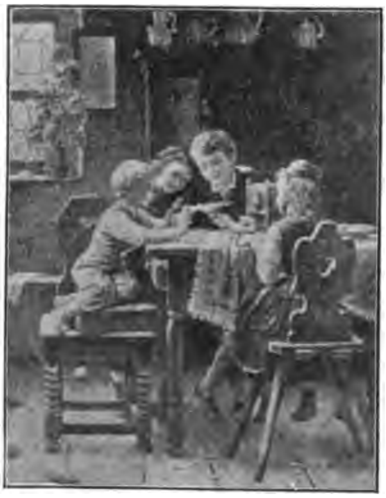
A mouse has been there before them. On their approach it has hidden under a roll of paper.

The kittens have discovered its tail. They are watching it carefully. They look as if they would like to play with it.

Outline: The artist and her work. The kittens. The mouse. The kittens' discovery.

Lesson 16.

(Imitation of model in Lesson 15. The Pet Bird—Meyer Von Bremen.)



Outline: Artist and his work. The children. Where they are. What they are doing. Other objects seen in the picture.

Lesson 17.

MODEL LETTERS—STUDIED AND REPRODUCED.

932 Fulton St.,
Brooklyn, Sept. 2, 1904.

Dear Alice:

I promised to write and tell you how I liked our new home. Brooklyn is certainly a pleasant city. I am sure that we shall enjoy living here.

Mother says that I may invite you to visit us. Can you come next Tuesday? We shall meet you at the Long Island station.

Your loving friend,
——— ———.

Outline: Our new home. The invitation. Time. Place of meeting.

Lesson 18.

(Imitation of model letter in Lesson 17.)

Outline: Our new home. The invitation. Time. Place of meeting.

Lesson 19.

195 Floyd St.,
Brooklyn, Oct. 21, 1904.

Messrs. F. Loeser & Co.,
Fulton Street,
Brooklyn, N. Y.

GENTLEMEN:

You will find inclosed a check for one dollar. Please send me by return mail one copy of Scudder's "Everyday Butterflies."

Yours truly,
—— ——.

Outline: Amount sent and how. Article ordered and how sent.

Lesson 20.

(Imitation of model letter in Lesson 19.)

Outline: Amount sent and how. Article ordered and how sent.

Composition Work—4B Grade.

The plan of work for the term is the same as that of Grade 4A. Each method whole ("lesson") consists of two periods.

REPRODUCTIONS OF STORIES READ OR TOLD.

Lesson 1.

A FABLE.

The Fox and the Grapes.

A fox in search of prey came to a grape vine on a trellis. The vine hung full of sweet grapes. So he leaped up for them many times. He wanted them badly. All his leaping was in vain because they hung so high.

Some birds sat in a neighboring tree. They laughed at his efforts. Finally he turned away with contempt, saying: "The grapes are too sour for me. I do not want them."

Outline: The fox and his efforts to get the grapes. Effect of his lack of success—on the birds, on the fox.

Lesson 2.

FAIRY TALE.

The Flower Fairy.

The flower fairy lived in a beautiful garden. She had a chariot with a team of butterflies.

Many young princes and princesses lived with her. She was very kind to them. They all loved her. When they were grown they had to go away. Then each could choose one fairy gift to take away into the world.

One princess was named Sylvia. She was simple, gentle and wise. The flower fairy loved her very much.

At last the time came when Sylvia must go away. Then the flower fairy called her people together. She stood in the midst of them. Sylvia was to choose her gift. She asked for a quiet and contented spirit. This choice greatly pleased the flower fairy.

Outline: The fairy's home and team. The young princes and princesses. Sylvia. Sylvia's choice.

Lesson 3.

A MYTH.

The Goddess of the Dawn.

Aurora is the goddess of the dawn. She is awake early. Dressed in a robe of rosy hue, she rises from her bed. She lifts the curtain of the night and says to men and gods, "Awake."

Aurora touches the clouds and they blush. The rivers turn red at her smile. The birds answer her call in song. The leaves of the trees dance with joy at her approach.

But she is not always gay and happy. Her son, Memnon, was killed in battle. At night she weeps for him. In the early morning her tear drops sparkle on the grass. Some people call these drops of dew.

Outline: Aurora and what she does. Effect on clouds, rivers, birds, and trees. Aurora's sadness.

Lesson 4.

A LEGEND.

The Legend of the Bracken.

The bracken is the species of fern said to bear the "mystic fern seed." According to the legend, fern seed could be obtained from this only on mid-summer eve.

At dusk the plant was supposed to put forth a small blue flower. This soon gave place to a shining, fairy seed. This ripened at midnight. If it fell from the stem of its own accord and was caught in a white napkin, it gave to its possessor the power to become invisible.

Thus one of Shakespeare's characters is made to say:

> "We have the receipt for fern-seed;
> We walk invisible."

—*W. N. Clute, from "Our Ferns and Their Haunts."*

Outline: The fern-seed. Development and fall of the seed. Quotation from Shakespeare.

Lesson 5.

REPRODUCTIONS FROM SILENT READING.

Honest Old Abe.

Mr. Lincoln was a clerk in a country store. One day a woman came in for some tea. Without knowing it, he used the wrong weight. So he gave her two ounces less than she paid for.

He found this out afterward. He made up his mind to set the matter right. After his day's work was over he took the small package to her house.

She was surprised to see him. He told her of his mistake, and said: "Now that you have what you paid for I can rest satisfied."

Outline: Mr. Lincoln's mistake. How he set the matter right. His remark afterward.

Lesson 6.

The Butterfly.

Oh! pleasant, pleasant were the days,
The time, when, in our childish plays,
My sister Emmeline and I
Together chased the butterfly!
A very hunter did I rush
Upon the prey—with leaps and springs
I followed on from brake to bush;
But she—God love her!—feared to brush
The dust from off its wings.

—*Wm. Wordsworth, from "To a Butterfly."*

Outline: The pleasure of our childhood day. Chasing the butterfly. The boy. The girl.

Lesson 7.

The Race of the Raindrops.

One morning, long ago, a band of little raindrops, far away in the deep sea, were watching the rosy Dawn greet the coming Day.

The Prince of Light was just rising from his bed of roses. Old Ocean lay fast asleep. The light awoke the merry waves. They danced and sang.

"Now for a race," shouted the sunbeams to the band of raindrops. Away they went, up into the bright blue sky.

Hour after hour they floated. At last the Prince of Light sank to rest. Over him the Twilight wove a beautiful coverlet. Then the evening came. The sunbeams were gone, and the raindrops were left alone in the darkness.

Outline: The band of raindrops. The Prince of Light. His coming. Its effect. The beginning of the race. The end of the race.

Lesson 8.

My Dove.

I had a dove and the sweet dove died;
And I thought it died of grieving:
Oh! what could it grieve for? Its feet were tied
With a silken thread of my own hands' weaving.
Sweet little red feet! Why should you die—
Why should you leave me, sweet bird!
Why?

You lived alone in the forest tree;
Why, pretty thing! would you not live with me?
I kissed you oft and gave you white peas;
Why not live sweetly, as in the green trees?
—*John Keats.*

Outline: The dove and its death. Where it lived. In the forest. Why not with man?

Lesson 9.

NARRATION—REPRODUCTIONS.

Ink Caps.

Ethel Holmes was in the garden at play. Her mother sat near sewing. Suddenly Ethel discovered some strange-looking plants. They looked like these in the picture. She called her mother to see them. Mrs. Holmes said, "These are ink caps, a kind of mushroom. Let us pick some of them. FIG. 1. We will look at these again this afternoon."

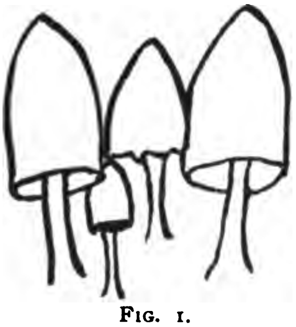


FIG. 1.

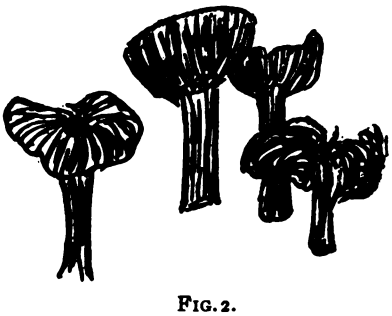


FIG. 2.

Later in the day they visited the garden again. They now found the mushrooms in this form. FIG. 2. They were black, broken, and soft.

Those that Mrs. Holmes had placed in a saucer looked the same. The saucer was as black as ink. "Now you see why they are called 'ink caps,'" said Mrs. Holmes. "These are very frail mushrooms. They grow up in a night and perish in a day."

Outline: What Ethel found. What Mrs. Holmes said about them. The second visit to the garden. Why "ink caps."

Lesson 10.

The Indian Children.

Hawk Eye and Fawn Foot were two little Indian children. They lived in an Indian village near a swift river.

All the people of this village belonged to one family or tribe. The bravest man was the chief. He had the finest wigwam.

One day the Indians moved from the village to a place in the woods. Here they hoped to find game to live on through the winter.

Little Fawn Foot helped her mother when they moved. Bright Eyes was carried on his mother's back. He was too small to help.

When warm weather came they all moved back to the village.

Outline: The Indian children and their home. The tribe. The removal. Fawn Foot and Bright Eyes at the moving. The return.

Lesson 11.

The Grains of Wheat.

Some little grains of wheat lived in a sack. It was very dark there. Soon they went to sleep.

After a time the sack was moved. Then the grains awoke. They heard a voice say, "Take this sack to the mill, Henry."

They had a long ride. When they reached the mill a man put the wheat into a hopper. It was then crushed between two stones.

"This is fine flour," said the miller, rubbing it between his fingers.

The sack of flour was carried home. Some of it was made into cakes. Charles and Henry ate these cakes and called them good.

Outline: Where the grains of wheat lived. The awakening. The mill. The flour. What became of the flour.

Lesson 12.

Prompt Obedience.

One day Mary and her mother crossed the little stream that came from the pond. The stones and sand were white and smooth.

Mary wanted to play in the water. Her mother said that she might. By and by there was a noise like thunder. It seemed to come from the pond.

"Quick, Mary! Come here!" said her mother. Mary did not stop to ask why. She ran to where her mother stood.

Then they saw that the stream was pouring down over the rocks. The great water gate by the dam was broken.

"If you had waited," said Mary's mother, "you might have been carried down into the river. I am glad that you obeyed at once."

Outline: The crossing of the stream. What Mary did. The mother's call and Mary's response. What they saw. What Mary's mother said.

Lesson 13.

MODEL COMPOSITION—STUDIED AND REPRODUCED.

DESCRIPTION OF AN OBJECT.

A House in Cuba.

In Cuba the yards are inside the houses. This inside yard or court is called a *patio.*

Around this open court are the sitting-room, dining-room, sleeping-rooms, store-room and stables. If there is a second story the sleeping rooms are there. They open upon a corridor or porch which extends around the court.

The floors are of tile or of plaster. In the finest houses the best floors are laid in white marble and jasper.

The roofs are generally tiled and painted red.

Outline: House and yard. Arrangement of rooms. First floor. Second floor. Floor. Roof.

Lesson 14.

(Imitation of model in Lesson 13, Our House.)

Outline: House and yard. Arrangement of rooms. First floor. Second floor. Floor. Roof.

Lesson 15.

DESCRIPTION OF A PICTURE.

The Angelus.

Perhaps the best loved of Millet's pictures is the Angelus. It shows how the peasants drop their work and bow their heads at the sound of the bell.

A man and woman are at work in the field. The Angelus has just chimed out the hour of evening prayer. They have stopped work to thank God for His goodness. The woman stands with bowed head and clasped hands. The man is near her. His head is uncovered.

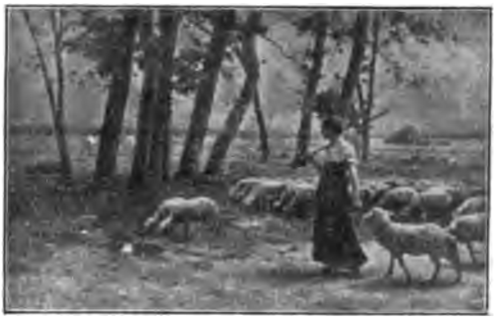
A well filled sack is on the wheelbarrow. The man has thrown down his pitchfork.

There are heaps of hay or grain in the field. In the distance we see the spire of the little village church.

Outline: Artist and picture. The most important objects. Other objects in the picture. In the foreground. In the distance or background.

Lesson 16.

(Imitation of model in Lesson 15, The Shepherdess.)



Outline: Artist and picture. The most important objects. Other objects in the picture. In the foreground. In the distance or background.

Lesson 17.

MODEL LETTERS—STUDIED AND REPRODUCED.

190 Beacon St.,
Boston, May 12, 1904.

Dear George:

I have some good news for you. Papa has decided to return to Brooklyn to live. Mamma and I are much pleased.

We expect to move next week. Our address will be 201 Hart Street. We hope to see you there soon.

Your friend,

——— —————.

Outline: The news. When we move and new address.

Lesson 18.

(Imitation of model letter in Lesson 17.)

Outline: Same as in Lesson 18.

Lesson 19.

546 Marcy Ave.,
Brooklyn, Jan. 2, 1904.

Mr. James Butler,
1046 Fulton St.
Brooklyn.

Dear Sir:

Please send (C. O. D.) the following goods to the above address:

4 cans sugar corn........	@ $.12	$.48
10 lbs. granulated sugar....	" .05	.50
2 doz. eggs..............	" .26	.52
1 sack flour..................		.80
		$2.30

Respectfully yours,

——— —————.

Outline: Where and how to send goods. Bill of the goods to be sent.

Lesson 20.

(Imitation of model in Lesson 19.)

Outline: Similar to that of Lesson 19.

Composition Work—5A.

Plan of work work, 5th year—narration, 4 models; related, if possible to grade work.

Description: 5 models—(*a*) an animal, (*b*) a scene, (*c*) a picture, (*d* and *e*) descriptions of processes or occupations, one for a boys' class, the other for a girls' class. Five topics suggested for imitation of the models given.

Only four of the models are to be studied, reproduced and imitated by any one class. The method of work should be: First period, study the model; second period, reproduce or imitate the model. Two periods a week comprise a method whole. Thus far the plan of work has been study of narration and reproduction of the models, four lessons; study of description, four lessons; imitation of the models of description, four lessons.

Invention: 4 models—(*a*) short story made longer, (*b*) change of scene, (*c*) individual picture stories, (*d*) individual imaginary biographies.

Letters: 3 models studied, then imitated—(*a*) social, (*b* and *c*) business.

The work for the twentieth week has been left optional and may be devoted to any kind of composition in which the children require more drill.

The plan of work for 5B is the same with a slight modification.

Lesson 1.

NARRATION—REPRODUCTIONS.

Lesson 1. (Each lesson consists of two periods.)

HERCULES AND PALLAS.

Hercules was a famous Greek hero. Once, while traveling along a quiet road, a strange great animal came suddenly toward him. It looked angry and seemed about to spring upon him. Hercules lifted a heavy club and struck the animal three times. The beast became three times as large as before. It looked far more angry. He gave one heavy blow after another. The animal grew larger and larger. Just then Pallas came near. She cried out: "Stop, Hercules! Cease your blows! The monster's name is Strife. Let him alone. He will soon become no larger than he was at first."

Outline: Hercules. Who he was. What he saw. What Hercules did. The result. What Pallas said.

Lesson 2.

Galileo was born in Pisa, Italy, in 1564. His father was very poor. The boy liked to make toys that would go. Having no money, he had a very hard time to get either tools or materials.

He showed he was studious. His father, therefore, sent him to college to study medicine. There Galileo accidentally overheard a lecture on mathematics. This subject fascinated him. He determined to study it himself.

His poverty did not permit him to stay long at college. He supported himself by giving private lessons in his favorite study. At last the college invited him to become a teacher there.

Through this work he was easily able to support himself. He could now afford to study. By working day and night he made great discoveries. These have benefited mankind.

Outline: Birth; boyhood. Youth as a student. His poverty. His work. Effect.

Lesson 3.

THE YOUNG ROBIN'S FIRST BATH.

One morning a robin was taking her bath. She vainly tried to coax her young one to venture into the water. The young bird would perch on the edge of the dish. Now and then he was spattered with drops of water as the mother splashed about. But he could not be tempted to step into the water. At last the mother flew away and left him standing there. In a moment she came back with a worm in her mouth. The young robin was hungry, as young birds always are. When he saw the worm he began to flutter his wings and cry for it. Then the mother jumped into the middle of the water dish and stood there holding the worm in sight. The youngster wanted the worm. He at once hopped in beside her. She fed him, and then began to splash about. The young bird soon found that a little water would not hurt him. After this he took his bath daily.—*Olive Thorne Miller.*

Outline: Robin trying to get the young one to bathe. Bringing the worm. How the robin got the young one into the water.

Lesson 4.

NOT ANGLES, BUT ANGELS.

One day a Roman priest called Gregory was passing through the slave-market at Rome. There he saw a group of boys very unlike the dark-haired boys of Italy. He stopped to look at the little strangers. They had a beautiful fair skin, light hair, and blue eyes. Gregory said to their master: "Whence have these boys come? Who and what are they?" The answer was: "They are heathen boys—Angles from the island of Britain." Moved with pity, and struck with the beauty of the little English boys, Gregory said: "They are well called. If they were not Angles they might well be called angels."

Outline: What Gregory saw. The conversation in regard to the boys.

Lesson 5.

MODEL COMPOSITION—STUDIED AND REPRODUCED.

(*Description.*)

THE CHAMOIS.

The chamois is one of the highest dwellers of the Alps. It belongs to the antelope family, but it looks like a goat. Its shoulders are generally two feet above the ground. The length of its body is about three and one-half feet. It is covered with long fawn-colored hair. This turns dark brown in winter. The fore feet are close together. The hoofs are shaped for climbing the hard, uneven surfaces. The food of the chamois consists of shrubs, flowers and twigs. It seldom drinks water. The senses of smell and of hearing are keen. A sound reaches it from a great distance. It can scent tracks even when they are partly covered.

Outline: The home and family of the chamois. Its appearance. Its food and drink. Senses of smell and hearing.

Lesson 6.

(Imitation of model in Lesson 5. Description of an animal.)

Outline: Home and family. Appearance. Food and drink. Senses.

Lesson 7.

(Description of a scene.)

A VIEW OF BRIGHTON, ENGLAND.

Brighton is one of the most popular of the seaside resorts in the British Isles. It is not a pretty place, but the air is clear and bracing. The bathing is fine. The most attractive part is the beach. Crowds are walking up and down in the sun listening to the music. Some are bathing in the cool sea. Children with bare legs are wading in the water or playing in the sand. Numberless people are driving about in carriages. Every one seems bent upon amusement. A man comes to us and asks us to buy some shells. Another sells fruit. A third offers us papers. A gypsy wants to tell our fortunes. A sailor begs us to go for a sail in his boat.—*Adapted from "A Little Journey to England."*

Outline: The place. The people enjoying themselves. Business people.

Lesson 8.

(Imitation of model in Lesson 7. Description of Coney Island.)

Outline: The place. The people enjoying themselves. The business people.

Lesson 9.

(Description of a Picture.)

THE NIGHT WATCH.

The Night Watch is Rembrandt's finest picture. It represents a company of soldiers in the street. They have been called out suddenly. In the center of the company is the captain. He is dressed in brown with a red sash about his waist. Near the captain stands another officer. His coat is yellow and his sash is white. He wears a plume in his big yellow hat. Some children have heard the drum. They wonder what is the matter. They slip in among the soldiers. The men themselves do not know what the trouble is. They have rushed out quickly and are not in line. Neither the flag bearer nor the drummer is in his place. Some soldiers have snatched up lances. One has a gun and another a sword.—*From "Stories of Great Artists."*

Outline: Artist and picture. Most prominent figures in the picture. Other thing seen in the picture.

A copy in colors in the class room during the lesson.

Lesson 10.

(Imitation of model in Lesson 9. Feeding her Birds.—Millet.)

Outline: Artist and picture. Prominent figures seen in the picture. Other thing seen in the picture.

Lesson 11.

(Description of a process or occupation.)

HOW TO MAKE A SHIELD KITE.

The materials for a shield kite are four sticks for the frame and some red, white and blue paper. Make the frame of the four sticks. The two straight cross sticks are shorter than the bent side ones. The length of these depends upon the size of the kite. Cover the frame with the tissue paper. Paste the red and white paper together in stripes for the bottom. Use a blue ground with white stars for the top part of the shield.—*Beard's "American Boys' Handy Book."*

Outline: Material needed. Making the frame. The cover, and completion of work.

Lesson 12.

(Description of a process or occupation.)

HOW TO MAKE A BOOK COVER.

The materials needed are brown linen and some dark-brown braid or ribbon. Select the book for which the cover is to be made. Cut the linen exactly the size of the book when open. A narrow piece is needed at each end to fold under. Bind the edges all around with the braid or ribbon. Sew the end pieces very firmly and neatly on the wrong side of the cover, leaving the points of the cover to project and form an edge.

A monogram, or any appropriate motto, may be embroidered on the cover.—*Campbell's "American Girl's Home Book.*

Outline: Materials needed. Cutting and arranging. Completion of article.

(Imitation of model in Lesson 11. How to make a picture frame.)

Outline: Material used. Making of frame. Cover and completion of work. (For boys.)

(Imitation of model in Lesson 11. Darning.)

Outline: Material used. Preparation. Putting in of warp threads. Putting in of woof threads. (For girls.)

Lesson 13.

INVENTION.

(A short story made longer.)

The Home in the Woods.

Far away from the city, in the deep woods, was a little hut. In this leaf-sheltered bower lived an old man and his dog.

(Complete the story about this man and his dog.)

Lesson 14.

(Change of scene.)

In the Sunshine.

The air was soft and genial. Not a cloud stained the bright azure of the heavens. The sun shone out in all its splendor, shedding light and beauty everywhere. Before them lay the dark blue waters of Lochmarlie, reflecting as in a mirror every surrounding object. On its placid transparent bosom was seen a fleet of herring-boats. The drapery of their black suspended nets contrasted with picturesque effect with the white sails of the larger vessels. These were vainly spread to catch a breeze. Not a breath of air was stirring. Not a sound was heard, save the rushing of a waterfall, the tinkling of some rivulet, or the calm rippling of the tranquil lake.—*From a quotation in Ruskin's "Modern Painters."*

The model depicts the lake as placid, with the sun shedding its genial light over the whole scene.

The pupils are required to make an entire change of scene.

Following the model they describe, the effect of a storm upon the lake and its surroundings.

Lesson 15.

(Stories from individual pictures.)

Each child may bring in a different picture and invent a story about it.

Lesson 16.

(Imaginary autobiography.)

Individual objects: The Story of a Dime—The Old Coat's Tale—A Doll's Autobiography.

Lesson 17.

MODEL LETTERS—STUDIED AND IMITATED

(A Friendly Letter.)

96 Clark St.,
BROOKLYN, Jan. 3, 1904.

DEAR HARRY:

We are very sorry not to have the expected visit from you this fall. Mother had planned many pleasant trips about the city for us.

Jack says that he wanted you to teach him how to make a kite. We remember what fine ones you used to have.

Can't you make us the promised visit at Christmas? We are all anxious to see you.

Sincerely yours,

——— —————.

Outline: Regrets. What Jack wanted. Invitation.

Lesson 18.

(A Business Letter.)

847 Quincy St.
BROOKLYN, Nov. 3, 1904.

MESSRS. GINN & CO.,
70 Fifth Ave.,
New York.

GENTLEMEN:

Please send me, by Adams Express, the books named below:
1 copy Lane's Strange Lands Near Home,
2 copies Wiltse's Folklore Stories,
1 copy All the Year Round, Part III.
Kindly enclose bill.

Yours truly,

——— —————.

Outline: How send books. List of books.

Lesson 19.

(A Business Letter.)

721 Gates Ave.,
BROOKLYN, June 1, 1904.

PUBLISHERS CHILD-GARDEN,
9333 Prospect Ave.,
Chicago, Ill.

GENTLEMEN:

You will find enclosed a money order for one dollar ($1), for which I wish you to send a copy of the Child-garden for one year. Please begin with the July number.

Yours truly,

——— —————.

Outline: Order for paper. Amount enclosed. Name of paper. When subscription begins.

Lesson 20.

Optional.

Composition Work—5B.

Lesson 1.

ORAL REPRODUCTION.

Current events or other interesting material.

Lesson 2.

NARRATION—REPRODUCTIONS.

MINUIT AND THE INDIANS.

Minuit next turned his attention to trading with the Indians. He sent a little fleet composed of a sloop, the ship's jolly-boat, and canoes, up the Hudson into every bay and creek where an Indian lodge could be seen. They exchanged axes, knives, beads, and gay fabrics for furs and wampum. They also invited the savages to come down to the fort and trade with their white brother.

Many came, and soon tall gaunt savages in skins or blankets, laden with bales of fur, venison, turkeys, wild fowl, and other game became familiar objects in the streets of New Amsterdam; for so Minuit had named his infant settlement.

Very soon about the company's warehouse there was a great bustle of trade indeed, earnest of the forthcoming greatness of the port.—*C. B. Todd.*

Outline: Minuit's trade with the Indians. His fleet. His invitation. The Indians at New Amsterdam. The bustle of trade.

Lesson 3.

HIAWATHA'S CANOE.

In the forest stood a birch tree. It had grown quite tall. The bark upon the trunk was smooth and shiny.

One day a tall young Indian passed by. He was straight as an arrow and tall like the pine tree. He crossed over to the birch tree, saying:

"Give me of your bark, O birch tree!
Of your yellow bark, O birch tree!
Growing by the rushing river,
Tall and stately in the valley!
I a light canoe will build me,
Build a swift Chemaun for sailing,
That shall float upon the river,
Like a yellow leaf in autumn,
Like a yellow water lily!"
Then the tree made answer,
"Take my cloak, O Hiawatha!"

Then Hiawatha stripped the tree of its bark. He made his birch canoe and launched it "in the valley by the river."

Outline: The birch tree. The Indian's coming and his request. The tree's answer. What Hiawatha did.

Lesson 4.

THE ORIGIN OF THE MOSS ROSE.

One beautiful summer day a fairy saw a butterfly with golden wings. He tried to catch the lovely insect. It led him a merry chase from flower to flower. At last the fairy found himself in a strange wood. He did not know the way home. The sun had set. The wind had gone away. No one could direct him.

Wearied with his search, he looked about for a resting place. He asked a lily to let him sleep on her broad leaves. The petals were closed and she would not receive him. Many flowers refused him shelter. At last, worn out and almost hopeless, he came to a rose. The lovely flower spread wide her fragrant petals as a downy couch for the tired fairy.

After a quiet nap he awoke refreshed. He asked the rose what return he could make for her kindness. The rose bowed her head and replied, "Make me more beautiful."

The fairy looked at the rose. He wondered how she could be more lovely. Soon he noticed the dainty green moss at his feet. He drew a delicate veil of it over the rose.—*Selected.*

Outline: How the fairy was lost. His resting place. The fairy's gratitude. How the fairy rewarded the rose.

Lesson 5.

MODEL COMPOSITION—STUDIED AND REPRODUCED.

(Description of an object.)

THE SHOEMAKER OF THE BASTILE.

With his back toward the door and his face toward the window, a white-haired man sat on a low bench. He was stooping forward and very busy making shoes.

When he spoke the faintness of his voice was pitiable and dreadful. It was like the last feeble echo of a sound made long and long ago.

He had a white beard, raggedly cut, but not very long, a hollow face, and exceedingly bright eyes. These were naturally large, and looked unnaturally so.

He and his old canvas frock, and his loose stockings, and all his tatters of clothes, had faded to such a dull uniformity of parchment yellow, that it would have been hard to say which was which.—*From Dickens' "Tale of Two Cities."*

Outline: General appearance at first glance. Voice. Face. Clothes.

Lesson 6.

(Imitation of model in lesson 5. Description of a well-known person.)

Outline: Same as for lesson 5.

Lesson 7.

THE CONCORD RIVER.

We stand now on the river's brink. It may well be called the Concord—the river of peace and quietness.

From the indolence of its nature, the stream is incapable of becoming the slave of human ingenuity. It idles its life away without turning a spindle. It does not afford even water-power enough to grind the corn that grows upon its banks.

It slumbers between broad prairies, kissing the long meadow grass. It bathes the overhanging boughs of bushes, or the roots of the trees. Flags and rushes grow along its banks.

In the light of a calm and golden sunset, it becomes lovely beyond expression. Each tree and rock, and every blade of grass, is distinctly imaged. They assume ideal beauty in the reflection. The rich clouds float through the bosom of the stream. It glorifies itself with a picture of the Heaven that broods above it.—*Hawthorne's "Mosses from an Old Manse."* (*Adapted.*)

Outline: The name. Its inactivity. Its banks. Appearance at sunset.

Lesson 8.

(Imitation of model in lesson 7. Description of East River.)

Outline: The name. The activity displayed on the river. The banks. Appearance at sunset.

Lesson 9.

(Description of a Picture.)

THE HORSE FAIR.

The Horse Fair is Rosa Bonheur's most famous picture. She was eighteen months in painting it. Daily she visited an old Parisian horse market to study the animals.

The picture shows a group of twenty or more strong horses. They are white, dappled, and black. The energy of their action and power is splendid.

Some have men upon their backs. Others are led by grooms.

In the background is an avenue of trees. Beyond this may be seen the dome of the Invalides in Paris.

Outline: Picture and the artist. The horses. The men. Other objects seen in the picture.

5*B Boys.*

Lesson 10.

(Study of a Picture, "Saved," by Landseer.)

Outline: Picture and the artist. Dog and child. Other objects seen in the picture.

5*B Girls.*

(Study of a picture, "The Sistine Madonna," by Raphael.)

Outline: Picture and the artist. The Madonna and saints. Other objects seen in the picture.

5B Boys.

Lesson 11.

(Description of a process or occupation.)

A HOME-MADE KALEIDOSCOPE.

Get three strips of glass about a foot long and two or three inches wide, a piece of semi-transparent writing paper, and some dark colored paper.

Tie the strips together. The strings will keep the glass in position. Cut a piece of the writing and of the dark paper so they will fit the ends of the prism.

Cut a small round hole in the middle of the dark paper for the observer's eye. Fasten the overlapping edges of these papers to the glass with mucilage. Then cover the sides of the prism with the dark paper.

Drop a few bits of colored glass, or beads, through the hole, and turn the writing paper end to the light. Place your eye at the hole and keep the prism slowly turning.

A kaleidoscope made in this manner is very serviceable.—*Beard's "American Boy's Handy Book."*

Outline: Material. Cutting and arranging work. Putting parts together and completion of work. Result.

5B Girls.

Lesson 11.

HOW TO MAKE A DOLL'S DRESS.

The materials needed for this doll's dress are some lawn, a bit of narrow lace and a piece of ribbon.

Use a straight piece of lawn for the skirt, cutting it long enough to allow for a broad hem at the bottom. Cut the waist and sleeves according to the size of the doll to be dressed.

Run the seams of the skirt and hem it. Gather it at the top. Hem the backs of the waist. Run the seams of the sleeves. Then sew them into the armholes, placing the sleeve seams at the middle point of the armhole. Gather the other end of the sleeve into a little narrow band. Gather the waist at the top and the bottom into narrow bands. Finish the sleeves and neck with some white lace.

The piece of ribbon is for a belt or sash.—*Campbell's "American Girl's Home Book."*

Outline: Material. Cutting and arranging work. Sewing and completion of garment.

5B Boys.

Lesson 12.

(Imitation of model in Lesson 11. How to make a portfolio.)

Outline: Material. Cutting and arranging work. Putting together and completion.

5B Girls.

Lesson 12.

(Imitation of model in Lesson 11. How to make a kimona.)

Outline: Material. Drafting and cutting of pattern. Cutting of garment. Sewing and completion of garment.

Lesson 13.

INVENTION.

(A short story made longer.)

A STREET SCENE.

One bright afternoon in October, Fulton street was thronged with shoppers. They were walking singly and in pairs, chatting and laughing.

Suddenly, above the din of the street, a shrill cry arose. Everybody turned toward it.

(Complete the story.)

Lesson 14.

(Change of scene.)

THE THUNDER STORM.

The clouds rolled in volumes over the mountain top. The rain began to patter down in broad and scattered drops. The wind freshened. At length it seemed as if the clouds were torn open, and complete torrents of rain came rattling down.

The lightning leaped from cloud to cloud and streamed quivering against the rocks. The thunder burst in tremendous explosions. The peals were echoed from mountain to mountain.

For a time the scudding mist and the sheeted rain almost hid the landscape from sight. There was a fearful gloom, illumined by the streams of lightning which glittered among the raindrops.—*Irving's "Bracebridge Hall.* (*Adapted.*)

The model composition, "The Thunder Storm," is to be studied by the pupils. Then they write a description of the clearing away of the storm, following the same general outline.

Outline: Clearing away of the storm. The clouds. The rain. The wind. The lightning and thunder. The appearance of Nature.

Lesson 15.

(Story from a picture. Individual pictures and individual work.)

Lesson 16.

(Imaginary autobiography. Individual subjects and work.)

SUGGESTED SUBJECTS.

Autobiography of a Lost Kitten.
Autobiography of an Old Coat.
Autobiography of a Nickel.
Autobiography of a Horseshoe.
Autobiography of an Acorn.
Autobiography of a Piece of Coal.
Autobiography of a Letter Found in an Old Trunk.

There are many other subjects which will interest the pupils. This is excellent work for development of the imagination.

Lesson 17.

MODEL LETTERS—STUDY AND IMITATE.

(*Friendly Letter.*)

832 Halsey St.,
BROOKLYN, Oct. 12, 1904.

DEAR CORA:

The book which you sent was just what I wanted. Mother had promised to get it for my next birthday. It affords me much pleasure to have it now.

We were very sorry to hear of your mother's illness. I hope that she is quite well again.

Aunt Alice has just returned from Europe. She expects to visit us next month. Can you not meet her here? It would be very pleasant.

Yours affectionately,

—— ——————.

Outline: Pleasure at receiving the book. Mother's illness. Aunt Alice's visit and the invitation.

Lesson 18.

650 Grand Ave.,
BROOKLYN, Nov. 11, 1904.

MESSRS. ABRAHAM & STRAUSS,
Fulton Street,
Brooklyn, N. Y.

GENTLEMEN:

I hereby apply for a position as office boy, although I am willing to take any other place you may have vacant.

I am fourteen years of age, and up to the present time I have attended Public School 155, Brooklyn. The principal, Mr. J. M. Brown, permits me to refer to him as to my attendance, punctuality, conduct and standing in lessons.

Hoping that you will give me a trial, I am,

Respectfully,
JOHN JONES.

Outline: Application. Age and school. Ending.

Lesson 19.

654 Myrtle Ave.,
BROOKLYN, Nov. 10, 1904.

MESSRS. BROWN & SMITH,
909 Broadway,
Brooklyn, N. Y.

GENTLEMEN:

Last Saturday I purchased at your store the following goods, which have not been delivered:

2 suits underwear, size 32.......	@ $1.00
3½ yds. table oil-cloth...........	@ .15

Will you please see that these goods are sent to me without further delay? Thanking you in advance for your courtesy, I am,

Yours truly,
ADAM JONES.

Outline: Time and list of purchases. Request for prompt delivery. Ending.

Lesson 20. (Oral reproduction.)

Model Letters in the Grades.

By Israel Edwin Goldwasser, Instructor in English, De Witt Clinton High School.

THE suggestions for the teaching of composition as laid down by the Board of Superintendents in the course of study provide for the extensive use of models. There can be no doubt that the general principle underlying this method is eminently sound. It is a truism that the most powerful instinct in children on which the educative process can be brought to act, is the power of imitation. It is through imitation that human speech is transmitted from generation to generation; through imitation also, are built up those habits of action which form the basis of adult character. The remarkable circumstance is that it has taken so long for educators to realize how fertile would be an application to the written communication of thought, of a principle which in other fields is so fundamental.

Though it is the purpose of the present article to offer for study certain examples of letter-writing which may be adopted as models, it would, perhaps, be well to state the limitations of the "studio method" as applied to this form of composition.

The most difficult element to secure in pupils' letters is spontaneity. And this is but natural. For this very quality is one so elusive, so thoroughly identified with the interests of the individual, so completely a form of pure self-expression, that it may be doubted whether a spontaneous effect can ever, through the teacher's efforts, be *secured.* If it is not present it can not be forced. Originality cannot be taught. If, however, it were possible for us to discover why the letters written in the grades of the elementary schools are stiff, artificial and awkward, it should be an easy matter, could we but remove the cause, to give to children's letters, within their limits, the freedom, grace and charm that characterize the correspondence of a Lowell, a Dodgson, or a Stevenson.

The traditional demarcation between the life of books and the life of the world finds its parallel in two entirely different forms of expression within the school. Just as there was once a belief (have we altogether outgrown it even to-day?) that the form and the subject matter of written language should be as far removed as possible from the style and the content of everyday speech, so do our children in the schools unconsciously adopt in their written work a style as foreign to the natural form of their daily conversation as the subjects they choose for their compositions, differ from the topics they discuss in their walks to and from school. Naturalness disappears as soon as they take pen in hand. They are on their best behavior and strut about, so to speak, uncomfortably correct, stilted, unbending. Nowhere does this show more than in their correspondence, for it is here that naturalness is the main desideratum. The great task before the teacher, briefly, is this: to remove, as much as possible, the barrier between free thought and written expression. The latter must be made, not only the natural, but even the necessary, outcome of the former.

But how is this to be done? In the last few years a great advance has been made in one direction. We no longer ask our children to write on "Home," "Success," "Friendship," and the like. We are getting more and more to realize that the logical sources of our composition work are not the pet theories of the teacher, but the natural interests of the children. Little, therefore, need be said regarding the choice of subjects. In the matter of form, however, the results have not been so satisfactory. The pupils have not secured the requisite facility in handling the language; their attention is constantly wavering between *what* they wish to say and *how* they wish to say it. We must concentrate our efforts, therefore, on the matter of *form* first, and what is more, on those very parts where unnaturalness most clearly shows itself, viz., in the opening and closing portions of the letter. A graceful exit from a room is no more difficult than a graceful close to a letter, and both can be taught.

Even if we have secured, however, a reasonable degree of ease in certain parts of the letter, we are confronted with a task beside which the former becomes insignificant. The body of the letter may be made correct in outline and sequence, but it is generally couched in language absolutely different from the colloquial usage of the children. Kipling's Judy in "Baa, Baa, Black Sheep" is a good type of the priggishness which we encounter. Much of this we can reform if we are but careful to have the children write on topics that fall easily within the field of their natural interests. When this has been done the rest of the cure lies in a change of our method of using the models.

At this point it is necessary to revert to the statement before made that there are certain limitations to be observed in the application of the studio method to the study of model letters. It would, perhaps, be too much to say dogmatically that these limitations are just as applicable to the study of models for description, narration, and exposition, but it seems clear that the principle on which our criticism is founded is basic, though its interpretation may differ in the various forms of composition. It has already been said that if we are to achieve any degree of success in our teaching we must be careful to make the center of our method the natural interests of the pupils and the lines of our method, their natural activities. Let us for a moment take our present mode of procedure. We announce that we intend to begin an exercise in composition, and then take up the study of a model which may or may not treat of a topic closely akin to the pupils' interests. In other words, we choke originality by the first step of our method. We place the thoughts and the work of another between the *pupils'* thought and its expression.

It is true that our present method insures the production of exercises of a definite form; the improvement over the former rambling, incoherent, chaotic compositions is so great that we must recognize this benefit accruing from the study of models. But cannot these advantages be secured without spreading a deadening influence over the work of the pupils? What wonder is it that the letters are lifeless? At no time is opportunity afforded for the absolutely free thinking of the pupils. We make a strong appeal to their imitative faculty and yet we wonder why the imitation is not original. Our method involves a contradiction. We study the model only so as to insure accuracy of form, but we place the time for such a study so that we mold not only the form but even the content.

It is not claimed that the method to be suggested here is perfect. There are, however, certain things to be said in its favor. It will be noted that it springs from the natural interests of the children. Its successive steps are responses to demands arising from the children's needs. At the beginning no attempt is made to consider form. The quantity of attention at the command of the average child is limited. If we are to permit and encourage free expression of thought there must be no check on the pupils' thinking. No model is to be presented, nor should anything be said by the teacher which will divert attention from the matter in hand, viz., the free expression of individual thinking.

All introductory work in composition should be oral. A great deal here depends upon the emotional tone the teacher is able to establish in the lesson. Unless there are both sympathy and enthusiasm the result will be dead. The discipline of the class should be such that orderly behavior is possible without severity on the part of the teacher.

The topic of the letter may be one selected from the work of the class, provided there is something so interesting that the children feel a desire to communicate their experience to others. Subjects should be concrete and specific, not a general account of progress in school work, except, perhaps, at the close of a term when the amount of ground covered and the readiness for promotion are prominent factors in the child's thinking about school affairs. By concrete and specific subjects are meant such as an account of an interesting experiment, for example, in physics; the experience of the pupils in class-room gardening; a report on an interesting discussion in history or geography; how a difficult problem in arithmetic was solved, let us say by only one member of the class, how a gymnastic game is played; the pupils' opinion of a book or a story read in the classroom, together with advice to read the same story, if the letter is written to a class-mate; or a request for the title of a similar book, if the letter is written to a teacher; and a little thought will develop many other subjects as good as those suggested, if not better. After a holiday of any sort the letter may be written on how the day was spent. A long vacation gives opportunity for writing descriptions of places or men, or narrations of various kinds. The teacher here should be on guard, however, that the pupils are treating of real, not of imaginary experiences. A simple warning to the class should be sufficient to prevent romancing.

With a subject properly chosen, the most difficult part of the teacher's work is done. The next step to take in order to give the effect of realness is to provide some system of actual correspondence. Members of one division of a 6A class, for example, may write to the children of a different division. If a letter of invitation is to be written, the many athletic contests between different schools may be made the occasion of a *real* correspondence. A 7B class may invite a class of another school to be present at the game, and as incentive the teacher may announce that the best letter will actually be sent. Surely principals in the same or in different districts may arrange some plan of correspondence between schools. If a book is to be bought for the class library why should not the children be called upon to write the letter? Once more the best letter could be sent; and when the book is received a letter of receipt and acknowledgment might be composed. This idea, of course, cannot be carried out in every instance, but there is opportunity for much more of such work than is usually done in our schools.

By the choice of a proper subject and a knowledge of the practical end to which the letter is to be put, the class should now be eager to get at work. But we are still far from the actual composition of the letter. The conversation between teacher and class for the purpose of bringing out what the letter should contain, is the next step in the lesson. As the important points are brought out by the class, the pupils should go to the black-board and write out briefly their own contributions. The minds of the children are now keenly alive and no thought is wasted on order or form. It will be noted that what we are here developing is really the body of the letter. Five minutes should be sufficient to bring out all that is necessary for the exercise. Now the attention of the class is to be directed to the list on the blackboard and another five minutes should suffice to enable the class so to number the statements that the sequence of ideas shall be orderly and definite.

The remaining part of the lesson is to be devoted to the writing of a letter. It is assumed that the mechanical placing of the different parts of the letter has been taught. The ordinary composition paper is not to be used in this exercise at all. There should be *no ruled margin*. It is easy to get paper of foolscap size and cut it down to the proportions of ordinary note paper. Thus far, we have had free thought and unaided, *free* expression. There will be many errors, the style may be stilted, the opening and closing of the letter may be models of what should be avoided,—but we have at all events the pupils' own work, the expression of his own ideas.

At the second lesson, the letters are to be distributed to the writers, and now for the first time, the model is presented to the class. The principle to be followed is that the type shall be considered not for purposes of slavish imitation from the very beginning, but only for comparison and correction. There are three points to which the attention of the class is to be directed. In the first place, let there be comparison with the model to detect errors in the mechanical placing of the various parts: Is the heading right? Are the punctuation marks properly used? Do paragraphs begin where they should? etc. Now let the study center on the introduction and the conclusion. The continued study of models will show that the importance of an introduction decreases as the tone of the letter becomes informal. It is not sufficient that only one model be placed before the children here. Types of various kinds of openings and endings should be shown and corrections should be made with a view of imitating not the words of the model, but the spirit. Finally, a study is made of the body of the letter. The model should be so chosen that it treats of a subject allied to that on which the pupils have already written. Many of the models to be presented here are really only the body of a letter. The rest of the period is devoted to a discussion of the merits of the model; different children should be called upon to read what they have written and class criticism follows. Then the lesson concludes with ten minutes devoted to correction, each child revising his own work so as to make it as nearly like the model as possible in form, while it still preserves his own thought. It may be objected that children in the lower grades cannot be called upon to exercise the critical faculty demanded in this method. But surely we are asking no more of them than is demanded in a proper appreciation of a model. We have eliminated an uninteresting reproduction of a model and have kept close to the child's own interests. At no time has the model been studied purely for form. The motive for study has been furnished in the desire on the part of the pupil to find cut how he may improve his own work. At the same moment he sees his faults and has before him a model which shows him correctness of form and spirit. The lesson is completed in a third period, when the letter is written in its final form, ready for sending. Teachers should also be careful that instruction is given as to the proper folding of the letter, the addressing of the envelope, and the placing of the stamp. This is to be a separate lesson and the class should use either real envelopes or else paper cut to the proper size.

Before we proceed to a consideration of the models themselves it may be well to mention some matters of a general nature, relating to method throughout the school. In planning work for the various grades care should be taken that there be a progressive advance in the models as well as in the pupils' work. Even in the highest grades very long models are to be avoided. It would be too much to say that no models should be used exceeding in length the letters we demand from the children. The limit should be the power of the children to retain a unitary impression while still carrying on the process of analysis. If the model is too long, the pupils think of it not as a letter but as an agglomeration of parts. In the lower grades if any extreme is to be touched it should be on the side of over-simplicity. Letters should be short and care should be taken with the writing. It is never too early to impress on children the truth that a carelessly written letter is an affront offered to the reader. In our letters we talk to our friends and if we are slovenly in our writing we might as well call on them, untidy in appearance. Correlation of topics in the letters with the work of the class is desirable only when we are sure of the children's interest in the topics. Too frequently we make the letter an easy way to secure a review of a lesson.

Copies of the model, carefully written, should be placed in the hands of the pupils; this effects a saving of time and makes possible individual comparison and correction. There should be no attempt to *teach* paragraphing, sentence-structure, or punctuation during these periods. Whatever necessary information is given should be told, not developed. The center of interest is the tone of the letter. Let criticism be kindly and encouraging.

MODELS.

(Third Year. First and Second Halves.)

There should be two lessons devoted to each model; even in the first half of the year, letters may be dictated after they have been copied by the children. It is to be remembered that these lessons are not to degenerate into mere exercises in penmanship. The teacher should call the attention of the class to the placing of the parts, the capitalization, the paragraphing, and the punctuation. After a few lessons, the dictation may become less definite; *e.g.* "We are going to write from a house at 258 East 56th Street: write the place and the date. This letter is to be written to your cousin." The child's memory and knowledge of form should help him to fill in the gaps. Models for 3A consist of one paragraph; in 3B we have two.

I.

DEAR COUSIN:

Did you watch at the window this morning? I almost cried when I saw the rain and knew I could not go to your house. Will you be home next Saturday? Love and kisses to all.

II.

DEAR HARRY:

You ought to see how the beans I planted have grown. Did you ever plant any? The onion that you saw is all dried up. Can you tell me why?

III.

DEAR FRIEND:

When you did not come last week I thought you were sick. Why did you not write me a letter? I waited for you all day. When will you be in New York again?

IV.

DEAR FRANK:

What fun we had in school to-day! A boy brought a rabbit and we gave it green leaves to eat. Did you ever see a gray rabbit? I saw one yesterday.

V.

DEAR MOTHER:

We have had a fine time all week. I went driving with Uncle John and the horses went so fast I was frightened. But uncle only laughed at me. When will you come here? I pray for you every night.

I.

DEAR FATHER:

The books which you sent me came here this morning. Thank you very much for them.

It has been raining since two o'clock. As I could not go out so I looked at the books. I did not read any but I think I shall like them. Will you come here soon?

II.

DEAR FRIEND:

How does it feel to be ten years old? I have been that age for two months and I feel just the same. I wish you many more happy years.

Please write me soon and tell me what kind of birthday party you had. Did you receive many presents? Don't you wish birthdays came every week instead of every year?

III.

DEAR MR. BROWN:

Papa told me this morning that you had sent me the beautiful sled which I found near my bed when I got up. I want to thank you very much for it. It is beautiful.

I hope it will snow soon so that I can use the sled. The first time I take it out I am going to give my little brother a ride because his first name is the same as yours.

IV.

DEAR FRANK:

We began a new story in the class yesterday. I like it very much and think you will like it too. The name of the story is "At the Back of the North Wind."

Our teacher reads to us and we all sit and listen. If your mother reads it to you, you can make believe you are in school even if you are sick. I hope you will get well soon.

V.

DEAR ROSE:

Mamma is going to let me have a real doll-party next Saturday.

Will you come early and bring your best doll with you? I want you to come early because I need you to help me fix some things for the other girls.

(Fourth Year—First Half.)

I.

MY DEAR MISS BROWN:

The stories about Hiawatha that you read to us are very interesting. I was always sorry when you finished.

Will you please send me the names of other books in which I can read about the rest of Hiawatha's life? I enclose a stamp. Hoping I am not troubling you too much, I am,

Your affectionate pupil,

II.

MY DEAR MISS BROWN:

I have been very sick for three weeks and I do not think I can come back to school for a month.

If I am not asking too much will you please send me the names of some good books to read? It is very lonely here sometimes. I should like some book like "Alice in Wonderland."

Yours affectionately,

III.

DEAR FRANK:

Our school is going to play Public School 79 a game of basketball next Friday afternoon. The game will take place in our gymnasium at half-past three o'clock.

Will you ask your mother whether you may come? Mamma says you are to stay with us for supper and Tom will take you home. Please write soon saying that you will come.

Yours truly,

IV.

GOOD GROUND, L. I.,
July 8, 1904.

DEAR MOTHER:

We arrived here at ten o'clock this morning. It was very dusty on the trains. I looked as black as coal when I reached the house.

In the afternoon I went with Fred to the field and watched the men digging potatoes. The earth has a very pleasant smell. We saw a great number of worms. Love to all.

Your affectionate son,

V.

DEAR UNCLE:

Promotion time is almost here and all the boys are excited. Next week we shall be examined by the Principal.

I think I shall be promoted. I have always had "A" on my report cards. That means "Excellent" you know. But I am going to make sure and I shall do my best next week. With love to Aunt Mary, I am,

Your loving nephew,

VI.

DEAR PAPA,—Ann wants a little Bible like little Betsey's. Will you please buy her one, if you can find any in Boston. I have been to school all the week, and got only seven marks. I shall have a billet on Monday. I wish you to buy me a drum.

(H. W. Longfellow to his father, January, 1814.)

FOURTH YEAR—SECOND HALF.

Fewer models are given here, as more time should be devoted to the study of outlines.

I.

438 Second Avenue.

MY DEAR FRED:

The boys of our class are to play a game of football with the team from Class 5A on Saturday next. If you want to have a good time, see the game.

Please do not say you are too busy. If you like, I will call for you on my way to Central Park, where the game will take place.

Yours as ever,

November 18, 1904.

II.

DEAR HARRY:

Why must your class have a football game on the same day that *our* class is going to the Aquarium? We have been planning our trip for several weeks, and I am afraid I cannot go with you to the Park.

If it rains on Saturday I suppose your game will be postponed; then I shall wait for you until half-past nine. Do not fail to come with us if you do not go to the game. I have spoken to Miss Brown, my teacher, about you, and she will be very glad to have you come.

Yours,

III.

DEAR UNCLE:

We have just received our report cards for the month, and I thought you would be glad to hear that I received "A" in my work. You know this is the first time my card had nothing but "A" on it.

I find that my lessons are not so difficult as I thought they would be. I have plenty of time to play and still do my written work very neatly. Love and kisses from all.

Your affectionate nephew,

FIFTH YEAR—FIRST HALF.

I.

DEAR FRANK:

I have just returned from my first ride in the Subway, and I am sure you will like to know what I think of it.

The cars run under ground and are therefore lighted all the time. They look bright and clean, and all the metal work sparkles as if it were just polished.

The trains move very quickly, but except for the stations nothing can be seen. I tried to look out of the window, but my eyes hurt, because of the pillars which are close together and very near the tracks.

At first I thought the noise was going to give me a headache. But in a few minutes I became used to the rumble and did not mind it.

I hope you will come to the city soon, so that we can take a ride together, the whole length of the Subway.

Yours truly,

II.

DEAR TOM:

You ought to see the new picture my mother bought and hung up in my room! It is so beautiful! I am afraid I cannot study my lesson at my desk any more. I always want to look at the picture.

I do not know who the painter is, but the name of the picture is "The Storm." It shows a little fishing vessel out on the ocean. The waves are higher than the boat and all white with foam. I think there must have been a terrible storm, as the sky is black with clouds, and the rain is falling heavily.

Do you remember a poem by Longfellow about a boat wrecked in a storm? I tried to think of the name, but I could not recall it. We read it one day last summer when it was raining so hard that we could not play. If you know what poem I mean please send me the name, as I wish to read the story while I sit in front of my new picture.

Yours very truly,

III.

DEAR MOTHER:

I am a real cook! When I come home I am going to put on an apron and do all the work in the kitchen. Do you want to know what I made? I want to tell you, so I hope you will say "Yes" to my question.

It was raining yesterday, and Miss Brown, who always shows us new games, asked us would we like to make "fudge." Of course we all shouted: "Yes!" Then we went to the kitchen, and what fun we had!

We took about two cupfuls of sugar, a cup of milk and a lump of butter about the size of an egg. We put all into a pot together with seven teaspoonfuls of cocoa, and placed the pot on the stove. I did not help in this. But when the mixture began to boil I had to stir it for about a quarter of an hour. How my arms ached! And I had to stand so close to the stove that my face was as red as fire.

When my work was through Mary beat the brown stuff a little and poured it into a buttered platter. As sóon as it began to cool Miss Brown cut it into little squares.

Then we all went into the parlor, and in about half an hour, while we were singing, Miss Brown brought in the platter, and we had a grand feast of "fudge." I wish I could send you some, but it was so good that every piece was eaten up, even the crumbs.

Your affectionate daughter,

IV.

DEAR FATHER:

I think when you get back to New York you will be most surprised to see the policemen on horseback throughout the city.

Yesterday I went to Broadway with Jack. I saw one of the policemen at Herald Square. His horse was very beautiful, and the officer had a pretty cap instead of a helmet.

I saw an automobile try to go down Broadway. The officer motioned to the man, who then turned down Thirty-fourth Street. Jack told me they do this so that people who get off the cars can cross the street safely.

I am feeling well, only I hope you will soon come back to

Your loving son,

FIFTH YEAR—SECOND HALF.

I.

AMERICAN BOOK CO.

GENTLEMEN:

Please let me know how much it will cost to get by mail a copy of Swinton's Advanced Fourth Reader. Enclosed please find stamp for reply.

I hope you will quote your lowest price, as I wish to present the book to a society of which I am a member.

Yours truly,

II.

AMERICAN BOOK CO.

GENTLEMEN:

I am very sorry that I must trouble you about such a little thing as one copy of a book. But the Swinton's Fourth Reader which you sent is soiled at page 38, and I should like to have a clean copy.

Hoping I am not causing much trouble, I am

Yours respectfully,

III.

The President,
LINCOLN LITERARY SOCIETY.

DEAR SIR:

I have been requested, as Secretary of the Lowell Reading Circle, to invite your society to be present at our next meeting, Friday, December 16th, at half-past three.

We hold our meetings in Room 38 and are anxious to have our friends who belong to other societies in the school see what we are doing. I hope your society will find it possible to be present.

Sincerely yours,
HENRY FRANKLIN,
Secretary.

SIXTH YEAR.

It is planned that the work in this year shall include business communications, applications for positions, etc. Models may be found in any ordinary text-book on grammar or composition.

SEVENTH YEAR.

In pursuance of the plan described in the introduction to these models, we have here presented models (1) of openings, (2) of closings, (3) of letters proper. Care should be taken that these be used according to the method described. No attempt is made to preserve the form of a letter. Mechanical difficulties should have been overcome in the earlier grades. Letter writing in the eighth year might be continued along the lines laid down for the seventh year.

Openings.

I.

"Many thanks for your letter. It rejoiced me to hear that the dinner over which you presided was a success, as it ought to have been with you at the head of the table. It made me wish I could have been there; but I was quite right in staying at home, where I had a good deal to keep me."

[Oliver Wendell Holmes, February 26, 1878.]

II.

"I always find myself in a little hurry when I sit down to write—partly because I am generally pretty busy, and partly because I always put off writing on purpose as nearly as I can to the time of the packet's leaving."

[Oliver Wendell Holmes, Paris, October 22, 1833.]

III.

"I am unwilling to let the packet go without taking advantage of it, and I shall therefore send you a few lines, the principal object of which is to let you know that I am well, and to inquire again why I hear nothing from you. If the post has done its duty you have received more than a dozen letters from me, and I have not had the shadow of an answer. . . . If I could only have news from home I should be perfectly contented."

[Oliver Wendell Holmes, Paris, September 28, 1833.]

IV.

"I begin this letter, as I have all of late, with a complaint of not receiving letters. I cannot suppose but that you write, and am entirely unable to understand why I hear nothing from you. Although I go on the principle of not worrying myself, I confess it is not comfortable to be so long without one word from home."

[Oliver Wendell Holmes, Paris, August 30, 1833.]

V.

"You told me that I *need* not read the book which you have sent me, and for which I cordially thank you; but you did not tell me I *must* not read it. Now I have read it, every word of it, and I wish to say to you that I have had too much pleasure in reading it to be denied the privilege of telling you how I have enjoyed it."

[Oliver Wendell Holmes, December 8, 1869.]

VI.

"You can't imagine how delightful it is out here. The greatest multitude of birds of every description that I ever* recollect to have seen. The grass is fast growing green under the kind sun of spring. Every day that the sun shines I take my book and go out to a bank in our garden and lie and read."

[J. R. Lowell, Cambridge, April 14, 1837.]

VII.

"I have no particular reason for dating this letter as I have, except that 18th sounds as well as anything else, for I have no idea of the true day of the month. Since I have been in Italy I have cared nothing about calendars."

[J. R. Lowell, Naples, April 18, 1856.]

VIII.

"No greeting could go to my heart straighter than yours, and yet I have let all these days slip by without returning it—not a day, though, without thinking of you, and *meaning* to write."

[J. R. Lowell, Cambridge, September 18, 1836.]

IX.

"Thank you for your letters—especially that from among the dear old Adirondacks. Though written in pencil, it did my heart more good than my eyes harm—only it made me homesick."

[J. R. Lowell, Cambridge, Oct. 28, 1857.]

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* Call attention to the error in position.

X.

"You see by my date that I am back again in the place I love best. I am sitting in my old garret, at my old desk, loving my old friends."

[J. R. Lowell, Elmwood, March 11, 1861.]

XI.

"I hope you will come hither as early as you can, for it will be vacation, and I can see more of you. And I want you to see my trees with the leaves on—especially my English elms. I hope by the middle of August our worst heats will be over, for they began early this year. As I write the thermometer is 92 degrees."

[J. R. Lowell, Elmwood, July 18, 1870.]

XII.

"Parting with you was like saying good-by to sunshine. After I got home, my study looked bare, and my old cronies on the shelves could not make up to me for my new loss. I sat with my book on my knee and mused with a queer feeling about my eyelids now and then."

[J. R. Lowell to Thomas Hughes, Elmwood, October 18, 1870.]

XIII.

"I have been so busy lately with doing nothing (which on the whole demands more time, patience and attention than any other business) that I have failed to answer your very pleasant letter of I don't know how long ago."

[J. R. Lowell, Paris, May 28, 1873.]

XIV.

"I have suspended my thermometer outside of the window; and, looking at it a moment ago, I perceive that it is polar weather out of doors. Really, an excursion into the country is not to be thought of in this first fierceness of the winter. So pray do not expect me to-morrow."

[Hawthorne to Longfellow—Boston, November 30, 1840.]

XV.

"I have been looking for a letter from you every day. Why don't you drop me a line? It would be particularly cheering just now. I have not been out of the house since you left here. Having been much indisposed by a cold, I am at the mercy of every breath of air that blows."

[Washington Irving.]

Closing.

I.

"Well, as I said, I must be off to the hospital and try to find something more interesting for the next time. Love to all."

[Oliver Wendell Holmes, London, July 25, 1834.]

II.

"I shall stop. My letters are crisp, and snap short off. I shall stop, first because I must breakfast, and, second, because I have a million of things to do afterwards. Give my love to all, and excuse me for hurrying to the Cafe Procope."

[Oliver Wendell Holmes, Paris, November 29, 1833.]

III.

I am at my wit's, paper's, and daylight's end, and am, as always,

Your

J. R. L.

[Cambridge, June 12, 1860.]

IV.

I am holding "good-by" at arm's length as long as I can, but I must come to it. Give my kindest regards to Rawlins, and take all my heart yourself. God bless you. A pleasant voyage, and all well in the nest when you get back to it.

Always most affectionately yours,

J. R. LOWELL.

[To Thomas Hughes, October 18, 1870.]

The following examples of conclusions from Mendelssohn's letters to Moscheles are taken from "Studies in English Composition," Keeler & Davis (Allyn & Bacon, 1897.)

V.

May we meet in health and happiness, and may you be as kindly disposed as ever to

Yours,

VI.

And now farewell and fare ever well.

Yours,

VII.

My best wishes accompany you on what I trust will be a happy and pleasant journey.

Yours ever,

VIII.

And trusting you will preserve a kind remembrance of me, I remain

Yours most sincerely,

IX.

My love to Emily and Serena, and may you and Moscheles be as well and as happy as I wish you to be.

Yours,

X.

For to-day, good-by. And more thanks and—hurrah, you are coming!

Ever yours,

Letters and Bodies of Letters.

I.

We had, last night, an old-fashioned northeast snowstorm, far worse than anything in the winter; and the drifts are now very high above the fences. The inhabitants are pretty much confined to their houses. All houses are one color, white, with the snow plastered over them, and you cannot tell whether they have blinds or not. Our pump has another pump, its ghost, as thick as itself, sticking to one side of it.

[Henry D. Thoreau—Concord, March 22, 1861.]

II.

(To Washington Irving.)

NEW YORK, Dec. 6, 1852.

MY DEAR SIR:

I expect to sail for England in the Baltic on Saturday next; and although my stay will probably be quite brief, I am desirous of seeing Mr. Rogers. Will you give me a line to him and any other friend in England whom it would be pleasant for me to see, and oblige

Yours ever, truly and respectfully,

HENRY T. TUCKERMAN.

III.

We had a very quick passage to Albany, where we arrived at three o'clock on Thursday morning. I was unwell almost the whole time, and could not sleep either night. We left Albany about an hour after we arrived there, in a wagon, and reached Johnstown between ten and eleven in the evening. The roads were fine, being turnpike almost the whole way; but I was so weak that it was several days before I got over the fatigue. I have had a little better appetite since I have been up here, though I have been troubled with the pain in my breast almost constantly, and still have a cough at night. I am unable to take any exercise worth mentioning, and doze away my time pretty much as I did in New York; however, I hope soon to get in a better trim.

[Washington Irving.]

IV.

I was, a few mornings since, on a visit to the Duchess of Berwick. She is the widow of a grandee of Spain, who claimed some kind of descent from the royal line of the Stuarts. She is of immense wealth, and resides in the most beautiful palace in Madrid (excepting the royal one). I passed up a splendid staircase, and through halls and saloons without number, all magnificently furnished, and hung with pictures and family portraits. This Duchess was an Italian by birth, and brought up in the royal family at Naples. She is the very head of fashion here. Well, this lady, of almost princely state, will be one of the ladies-in-waiting on the little Queen when she receives her mother. She will stand behind the Queen at the foot of the staircase of the royal palace, and perhaps bear her Majesty's train.

Think of that, my dear, think how grandly these little queens of thirteen years of age are waited upon. . . . After all this magnificent detail, I shall expect, in return, an account of cousin Julia's ball, and how you all enjoyed yourselves, and how you were all dressed.

V.

Your mother reminds me that to-morrow is your eighteenth birthday, and though I know that my "happy returns" will reach you a few hours too late, I cannot but send them.

You are touching manhood now, my dear laddie, and I trust that as a man your mother and I may always find reason to regard you as we have done throughout your boyhood.

The great thing in the world is not so much to seek happiness as to earn peace and self-respect. I have not troubled you much with paternal didactics—but that bit is "over true" and worth thinking over.

[T. H. Huxley.]

VI.

My Dear Longfellow: You are coming to England, you know. Now listen to me. When you return to London, I shall be there, please God! Write me from the Continent, and tell me when to expect you. We live quietly—not uncomfortably—and among people whom I am sure you would like to know, as much as they would like to know you. Have no home but mine; see nothing in town on your way towards Germany, and let me be your London host and cicerone. Is this a bargain?

Always faithfully your friend,

Charles Dickens.

VII.

This morning I poured some ink for the first time into your pretty ink-stand, and, as in duty-bound, hansel it by writing to you. It has been standing on the shelf of my secretary, its mouth wide open with astonishment at my ingratitude in not writing to thank you, ever since it came. It needn't have been so jealous, though, for I have written to nobody else meanwhile, and it should remember that I can at any moment shut it up tight, deny it ink, pen and paper, and thus cut it off from all its friends. "Monster!" I seem to hear it say, "you would not surely deny me the sad consolation of sending my love to Mrs. Herrick and telling her how home-sick I am? There are all kinds of fine things in me, as good as were ever in any ink-stand that ever lived, if you had but the wit to fish them out. If I had stayed with my dear mistress I should ere this have found a vent for my genius in a score of pleasant ways." "Well, well, so long as you don't make me uneasy with your reproaches, I shall be sure to treat you kindly for the sake of your old mistress, . . . who is always contriving pleasant ways of making her friends grateful."

VIII.

Since I wrote, I have been down the harbor with the pilots in "The Friend." We went first to Hull and telegraphed the boat, which was cruising on the inner station. They could not come in for us at once, because they were on the lookout for the English steamers, so we had a chance to investigate Hull a little. It is a pretty little village cuddled down among the hills, the clay soil of which keeps them densely green. The fields are broad and wholly given to grazing cattle and sheep, which dotted them thickly in the breezy sunshine. Down in the village we found a stalwart fellow in the barn shearing sheep. This was something new to me, and going away, I thanked the man for having shown me something I had never seen before. He laughed and said: "If you'll take off them gloves o' yourn, I'll give you a try at the practical part of it." By Jove! he was right. I never saw anything handsomer than those strong, firm hands of his, on which the sinews were as tight as a drawn bow-string.

I told him that I was bred in the country as well as he. He laughed again and said: "Wall, anyhow I've the advantage of you, for you never see a sheep shore, and I've been to the open and shore a sheep myself into the bargain." He told me that there were two hundrd sheep in Hull, and that in his father's day there used to be eight hundred. The father, an old man of near eighty, stood looking on, pleased with his son's wit, as brown as if the Hull fogs were walnut juice. Then we dined at a little inn with a golden ball hung out for a sign—a waif, I fancy, from some shipwrecked vessel.

[Lowell.]

IX.

"Will you dine with me on Saturday at six? I have a Baltimore friend coming, and depend on you. . . . If not Saturday, will you say Sunday?"

[J. R. Lowell to Longfellow, Elmwood, May 3, 1876.]

X.

"The aspect of a Dutch town is much as I expected, and of course quite peculiar. Brick houses with sharp roofs, green blinds, generally small and not more than two or three stories high, with remarkably pretty iron fences before them—odd names and signs up at the windows—at intervals the figure of a man opening his jaws as if to bolt a score of pills, the sign of the apothecary shops—here a street and there a canal—here a hackney coach on wheels, and there one which is dragged over the smooth flagstones on runners—such are the images that rise to my mind when I think of Rotterdam or Amsterdam."

[Oliver Wendell Holmes, London, July 25, 1834.]

XI.

"Your most unexpected gift, which is not a mere token of remembrance, but a permanently valuable present, is making me happier every moment I look at it. It is so pleasant to be thought of by our friends when they have so much to draw their thoughts away from us; it is so pleasant, too, to find that they have cared enough about us to study our special tastes—that you can see why your beautiful gift has a growing charm for me. Only Mrs. Holmes thinks it ought to be in the parlor among the things for show, and I think it ought to be in the study, where I can look at it at least once an hour every day of my life."

[Oliver Wendell Holmes, July 6, 1891 (?).]

Geography in 5B. *(Continued.)*

By E. A. Schuller, P. S. 55, Brooklyn.

Third Month—First Week.

Resources.—The fertile prairies adapted for tillage and grazing; deposits of minerals including coal, iron, salt, lead, copper; numerous navigable rivers; extensive forests east of the Mississippi. Industries and Occupations—Agriculture, stock-raising, manufacturing, mining, commerce.

Products.—Animal: Cattle, sheep, horses, hogs, from which wool, butter, beef and pork are obtained. Vegetable: Corn, wheat, oats, potatoes, hay, tobacco, hemp, flax. Mineral: See *Resources.* Manufactured: Farming implements, iron castings, engines and other machinery, and articles made from grain, hides and lumber. Commerce: The great natural facilities for trade have been increased by numerous canals connecting the waters of Lakes Erie and Michigan with the Ohio and Upper Mississippi, and innumerable railroads give access from all parts of the group to the ports on the Atlantic and Gulf coasts. Great Trunk Lines: Chicago, eastern terminus for Union Pacific, Rock Island; Atchison, Topeka and Santa Fe, eastern terminus St. Louis; Northern Pacific, Chicago terminus. Chicago, Burlington & Quincy, Chicago & Northwestern.

Exports and Imports.—Wheat, flour, corn, pork, bacon, beef, cheese, wool, copper exchanged for the manufactures and imports of the Atlantic States.

Chief Cities.—Capitals: Michigan, Lansing; Wisconsin, Madison; Minnesota, St. Paul; North Dakota, Bismarck; South Dakota, Pierre; Ohio, Columbus; Indiana, Indianapolis; Illinois, Springfield; Iowa, Des Moines; Nebraska, Lincoln; Kentucky, Frankfort; Missouri, Jefferson City; Kansas, Topeka.

Largest Cities.—Chicago, center of trade between East and the West. It is one of the greatest grain, pork and live-stock markets on the globe. It is the greatest railroad center in the world. St. Louis, commercial center of the Mississippi Valley, largely engaged in manufacture of iron ware, has a steel bridge which spans the Mississippi at this point. Railroad center. Cincinnati, center of trade for the Ohio River Valley. Noted for its many great pork-packing establishments. Suspension bridge across Ohio. Indianapolis, railroad center. Detroit, commercial center, large trade with copper region, articles of trade being grain and lumber. Milwaukee, wheat market. Minneapolis, flour and lumber. Kansas City, live stock market.

Status and Customs of People.—Busy people, noted for their enterprise in founding cities and building railroads and other great public works and for their intelligence and love of education.

SECOND WEEK.

SOUTHERN STATES.

Names.—N. C.; S. C.; Ga.; Fla.; Ala.; Miss.; La.; Tenn.; Ark.; Ind. Terr.; Ok. Terr.

Location.—In warm-temperate portion of United States and all except western Texas are in the moist, eastern half of the country.

Climate.—In the northern part mild winters and long summers prevail, while the southern part is seldom visited by frost.

Surface.—This group includes broadest part of the Atlantic Plain, the lowest portions of the Great Central Plain, the highest part of the Appalachian Mountain system, and a small portion of the high plain adjoining the Rocky Mountains.

Mountains.—Cumberland, Blue Ridge, Ozark Mts. (Arkansas).

Drainage.—Most of the rivers belong to the Mississippi System, Atlantic System and Gulf System. The Mississippi and its tributaries connect the Gulf States with all parts of the interior of the country, and from the great highways between them. Rivers: Mississippi, Red, Arkansas, Tennessee, Cumberland, Alabama, Brazos. Shallow lakes are numerous in Louisiana and Florida. The streams which enter the Atlantic and Gulf from adjacent slopes are navigable to borders of upland regions.

THIRD WEEK.

Resources.—Fertile soil except in coast plain, extensive forests, rich mineral deposits of coal, iron, salt, marble and gypsum.

Industries.—Agriculture is chief pursuit, lumbering, manufacturing, mining, commerce, stock-raising.

Productions.—Agricultural: Cotton, tobacco, corn, rice, sweet potatoes, sugar, live-oak, white-oak, pine. Animal: Cattle, sheep, horses, mules, hogs. Mineral: See *Resources.* Manufactured: Iron goods, cotton and woolen goods, hemp products.

Commerce.—Carried on by rivers and railroads. Few harbors, New Orleans is most important.

Great Trunk Lines.—International, Chicago, St. Louis & Orleans, Kansas & Texas, Memphis & Charleston.

Exports.—Cotton, tobacco, rice, lumber, sugar, naval stores.

Imports.—Manufactures.

FOURTH WEEK.

Chief Cities.—N. C.: Raleigh, capital, State Asylums; Wilmington and Fayetteville, turpentine distilleries and lumber mills. S. C.: Columbia, capital, South Car. College, State Asylum for Insane; Charleston, seaport, greatest commercial center of S. At. States, one of leading rice and cotton markets in Union. Ga.: Atlanta, capital, railroad center; Savannah, seaport, fine harbor, next to Charleston as a commercial center; Fla.: Tallahassee, capital; 1565, St. Augustine, oldest town, favorite winter resort. Key West, export of sponges. Ala.: Montgomery, capital, cotton trade and agricultural produce; Mobile, commercial city, second cotton market in U. S. Miss.: Jackson, capital; Vicksburg, cotton port; La.: Baton Rouge, capital, great river trade; New Orleans, water communication with all Central States and is connected by rail with all large cities of interior and the seaboard. Greatest cotton market in world, and first sugar market in U. S. Texas: Austin, capital; Galveston, seaport. Tenn.: Nashville, capital, commercial center; Memphis, railroad terminus, large grain and cotton market. Ark.: Little Rock, capital; Hot Springs, mineral springs. Ok. Terr.: Guthrie, capital.

Status and Customs of People.—Population is sparse compared with that of the northern states, and a large part of it is composed of negroes. Cities, towns and villages are far apart, the people dwelling principally upon plantations. Chief occupation is farming. The farmers are called planters. People less energetic than those in the north.

Fourth Month—First Week.

MOUNTAIN STATES AND PACIFIC STATES.

Mountain States.—Idaho; Mont.; Wy.; Nev.; Utah; Ariz.; Col.; New Mex.

Pacific States.—Wash.; Ore.; Cal.

Location.—Upon the Pacific Highland and Pacific Slope. It covers about one-third of entire area of country. General altitude averages about that of highest peaks of Appalachian system.

Climate.—Mountain States: Cool, owing to its elevation above the sea level. Also noted for its dryness.

Pacific States.—Unlike that of any other part of U. S. In California and Oregon it is mild and equable throughout the year, but it presents great extremes of moisture, the rains being confined to period from November to April and no rain in other months.

Surface.—Mountain States: Great natural feature is Rocky Mountain System. They comprise several chains more or less parallel and connected by numerous cross ranges. Grand scenery including the "parks" of Colorado, The Fire Hole Basin in valley of Madison River, which contains hundreds of boiling springs and spouting geysers. The Cañon of Yellowstone, a great mountain-rent including Yellowstone Park, nearly the size of Connecticut. Here are found boiling springs and geysers, many grand waterfalls, deep cañons, beautiful lakes, and rugged mountain peaks; Grand Cañon of Colorado.

Second Week.

Pacific States.—The Sierra Nevada Mountains extend through California into Oregon and Washington, where they are called the Cascade Range. The Coast Range is a series of low chains near Pacific Coast. In western slope of Sierra Nevada is the wonderful Yosemite Valley. In California are the Big Tree Groves.

Drainage.—Rivers are long, but navigable only a short distance. Rio Colorado, Columbia. The great, dry plains upon eastern slope are crossed by many rivers whose waters come from the mountains. Great Interior Basin of which Nevada occupies central part, whose rivers flow into lakes which have no outlets, from which the water evaporates. Rio Grande and Yellowstone River. Lakes: Yellowstone, Great Salt, Puget Sound. Rivers are utilized for irrigation, thus making land cultivable. Water-power is abundant.

Resources.—Mountain States: Rich in mines of gold, silver, copper, lead and coal, fine pasturage.

Occupations.—Mining and stock-raising.

THIRD WEEK.

Resources.—Pacific States: Grand forests, fertile soil.

Occupations.—Agriculture, lumbering, manufacturing.

Productions.—Agricultural: Corn, wheat, oats, barley, fruits, pine, fir, cypress, red-wood trees.

Mineral.—Gold, silver, quicksilver, copper, lead, iron, coal.

Animal.—Horses, cattle, sheep.

Commerce.—Carried on by several railroad routes across the highlands and by water.

Great Trunk Lines.—St. Louis & San Francisco; Texas & Pacific; Union Pacific: Central Pacific; •Southern Pacific; Northern Pacific; Oregon & California.

Exports.—Gold, wine, fruit, wheat, butter, silver, quicksilver, lumber.

Imports.—

Chief Cities.—Idaho: Boise, capital. Mont.: Helena, capital; Butte, greatest mining city. Wyo.: Cheyenne, capital, central point of cattle trade. Nev.: Carson City, capital; Virginia City, principal town. U.: Salt Lake City, capital. Ariz.: Phoenix, capital; Tucson, large city. Col.: Denver, capital, commercial center; Pueblo, railway center; Leadville, silver mines. New Mex.: Santa Fe, capital, second oldest town in U. S.; Albuquerque, chief place. Wash.: Olympia, capital; Seattle, largest city. Ore.: Salem, capital; Portland, chief trade center. Cal.: Sacramento, capital, gold market; San Francisco, largest city, greatest commercial port; Los Angeles, fruit market.

FOURTH WEEK.

Status and Customs of People.—The country was first settled by people searching for gold and silver, also by people who were given tracts of land to encourage settlement. They are a hardy, brave, and enterprising people. Alaska and other territories: General outline of location, climate, surface, drainage, resources, occupations, chief cities.

FIFTH MONTH—FIRST WEEK.

CANADA.

Location.—North of U. S.

Surface.—Mostly a plain lying in what was at one time a channel connecting the Arctic Ocean with Gulf of Mexico. A chain of lakes follows this channel. The Height of Land (Climate) in the east separates the drainage of St. Lawrence River system from that of Hudson Bay system.

Climate.—Varies from temperate in south, to extreme cold in north.

Provinces.—Newfoundland, Prince Edward Island, Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba and British Columbia.

Resources.—Great timber regions, extensive and valuable fisheries, mineral deposits.

Industries.—Agriculture, lumbering, fishing, mining.

Products.—Lumber, wheat, salmon, cod, lobsters, herring, mackerel, gold, iron, nickel, gypsum, and coal.

Commerce.—Carries on an extensive trade with the U. S. and England. It has a comprehensive system of canals and waterways, also a considerable mileage of railways. The Canadian Pacific most important.

Imports.—Cloths, cutlery, manufactured products, pork, tobacco.

Exports.—Lumber, wheat, potash, fish, furs, barley, dairy products, live-stock.

Chief Cities.—Ottawa: Capital, Quebec; Montreal, Halifax, St. John's, Toronto, Winnipeg, Victoria.

People.—Educated, prosperous, progressive.

SECOND WEEK.

MEXICO.

Location.—That part of N. A. lying between Gulf of Mexico and the Pacific, including highest part of the great Western plateau. Mexico, Central America and West Indies compose Spanish America. Except northern part of Mexico, they are all within Torrid Zone.

Surface.—Mostly mountainous and contains a large number of volcanoes, most of the West Indies being of volcanic origin. Among the volcanoes are Popocatepetl and Orizaba, the highest peaks in North Amercia.

Climate.—Differences in altitude give to these countries a range of climate as great as that of U. S. The seasons are two—wet and dry.

Resources.—Fertile soil, rich mineral deposits.

Industries and Occupations.—Lumbering, mining, agriculture.

Products.—Coffee, tobacco, cotton, sugar, spices, vanilla, cochineal, dye-woods, cocoa, indigo, tropical fruits, gold, silver, cattle, hides. These are the principal exports.

Imports.—Manufactured goods.

Commerce.—Little foreign commerce.

Chief Cities.—Mexico: Republic, 23 states. City of Mexico, Vera Cruz, Tampico, Acapulco, Puebla.

THIRD WEEK.

CENTRAL AMERICA—FIVE REPUBLICS.

Guatemala, Honduras, San Salvador, Nicaragua, Costa Rica and the British colony, Balize.

Cities.—Guatemala, San Salvador, San Jose.

FOURTH WEEK.

WEST INDIES.

Bahama Islands, Greater Antilles, Lesser Antilles. Greater Antilles are Cuba, Hayti, Jamaica, Porto Rico. Greater and Lesser Antilles are volcanic. The Bahamas are of coral formation.

Cities.—Havana, Santiago, Matanzas, Kingston.

HEART-WOOD AND SAP-WOOD.

Sap-wood is usually light and of softer structure. It is the living part of the wood and carries the sap.

The inner layers of the sap-wood gradually harden until fluids can no longer pass through them. Thus the heart-wood is formed, the only part valued as timber. Various colors. It is of no account in vegetation.

The sap-wood is next to the inner bark, in layers, the heart-wood is the inside layers.

MOVEMENTS OF SAP. (MAPLE.) CRUDE SAP.

The roots absorb fluids from the earth, this flows upward through the stems and branches, toward the buds, leaves and flowers.

As the stem grows old, the sap does not traverse the inner layers, but frequents only the outer newer layers.

After the decay of the leaves in autumn, the rootlets continue their action for a time and thus sap accumulates. Also in early spring before the leaves develop, this action commences and the plant becomes gorged with sap, which will burst forth from incisions, as in the sugar maple, or spontaneously as in the grape. When the buds become leaves and flowers, this stops.

The true sap loses its water by exhalation, but gains other things necessary for the life of the plant. It returns, distributing to each part what is needed. Thus the growth progresses downward.

WOODY PLANTS—TREES.

A tree attains to a height many times greater than the human stature, has a woody stem, and the lower part, the trunk, is unbranched.

The age of a tree may be estimated by the number of wood-circles or rings seen in a cross section of the trunk, each ring being an annual growth.

Kinds: Deciduous, lose foliage in fall; evergreen, do not lose foliage in fall.

Use of bark—to cover and protect the wood.

Inner bark	(white)
Middle "	(green)
Outer "	(brown)

The wood is arranged in zones or layers. It gives strength to the trunk.

The pith occupies the central part of the stem. It is filled with fluids for the nourishment of the buds. As the plant grows older, the pith loses its vitality, is filled with air and often disappears.

The ducts are usually first formed and lie next the center, while the wood-fibers are in the outer part.

Medullary rays are fine lines passing from the pith to the bark. Used to combine firmly the layers, and to serve as channels of communication to and from the bark and heart-wood.

PLANTS.

Are divided into two classes; exogens and endogens.

Exogens include nearly all the trees (except palms), and most herbaceous plants of temperate regions. They are so named because the stem enlarges externally by additions to the wood already formed.

Endogens include grasses and most bulbous plants, also palms, canes. They are so named because the stem has no woody fibre in layer. It enlarges internally.

Exogens have two seed-leaves and net-veined leaves. Endogens, one seed-leaf and parallel-veined leaves.

Prefixes, Suffixes, Stems—Grades 5B and 6A.

By A. LONDON, P. S. 34, Brooklyn.

5A Grade.

FIRST MONTH.

Prefixes: *in,* not, *un,* not; *mis,* wrong, bad, wrongly.

Suffixes: *er, ar, or,* one who; *ful,* full of; *ous,* full of.

A few words here given are to be placed on board and analyzed by teacher. The class then will be asked to suggest words, which should be placed on board and analyzed by class.

Examples: incorrect, inattentive, inaccurate, unknown, unseen, unheard, misspell, misfortune, misdeed, baker, beggar, conductor, wonderful, sorrowful, doubtful, dangerous, glorious.

SECOND MONTH.

The prefixes and suffixes learned hereafter lend themselves very easily to be affixed to stems. Hence stems are now taken up.

Prefixes: *re,* back anew, again; *pro,* forward.

Examples: review, recapture, return.

Suffixes: *ish,* like, state of; *ship,* state of.

Examples: boyish, kittenish, foolish, friendship, hardship, fellowship.

Stems: *ced, cess,* to go, yield.

The prefix "pro" and stem "ced" can best be learned together, the synthetic method being observed. In the study of stems both methods should be employed. The words "proceed" and "recede" are to be placed on board. The boys will be asked the meaning of each word. After these have been given, the teacher will elicit from the class that in these two words the prefix has changed the meaning of the word, the part that is unchanged being "ced," meaning to go or yield. A definition of a stem will now be in order, the pupils attempting it, the teacher writing the final one on the board. The words may now be placed on the board to be analyzed by pupils.

Examples: recede, proceed, recess, process, cease, proclaim.

THIRD MONTH.

Prefixes: *pre,* before; *post,* after.

Examples: prefix, prepay, predetermine.

Suffixes: *ness,* state of; *less,* without.

Examples: goodness, happiness, boyishness, penniless, hatless, effortless.

Stems: *scrib, script,* to write.

Words to be analyzed by class: ceaseless, precede, predecessor.

The prefix "post" and stem "scrib" may best be learned together, the same method being used as in the prefix "pro" and stem "ced."

Words to be compared: postscript, prescribe, script, prescription, proscribe. (Here the Roman custom of proscription may be told to class to understand the meaning of the word as now in use.)

FOURTH MONTH.

Prefixes: *trans,* across; *fore,* beforehand.

Examples: transcribe, transcript, trans-Atlantic, foretell, forearm, forewarned. (Boys analyze these words.)

Suffixes: *able,* can, power; *ly,* manner.

Examples: unable, portable, curable, incurable, badly, happily, secretly.

Stems: *dict,* to say; *port,* to carry.

With the prefix, the stem "port," learned, transport, report, reporter, porter, predict, dictator. (These words review third month's work.)

FIFTH MONTH.

Prefixes: *with,* against, back.

Examples: withdraw, withhold, withstand.

Suffixes: *hood,* state of.

Examples: manhood, boyhood, statehood.

Stems: *duc, duct,* lead, that which leads.

Examples: reduce, reducible, produce, reproduce.

Review.—Occasionally the teacher should write on the blackboard words selected from the list of prefixes to have the boys find their meanings.

GRADE 6A.

FIRST MONTH.

Prefixes: *in,* not, changing (il, im, ir, before l, m, p, r, respectively), un (before verbs), to take off; to reverse. (Compare these prefixes with those learned in 5B.)

Examples: illegal, irregular, immoderate, impatient, unbend, unburden, uncover.

Suffixes: *ion,* act of; *ity,* state of.

Examples: procession, transcription, reduction, reproduction, cession, vanity, humanity, sincerity.

Stems: *cred, credit,* to believe, to trust.

Examples: credit, credible, incredible, creditor, creditable.

SECOND MONTH.

Prefixes: *in,* to, into (with the same changes as learned in first month), ad, to (ac before c, af before f or g).

Examples: income, inborn, import, induce, adjoin, adhere, accredit, affix.

Suffixes: *ance,* state of; *ence,* state of.

Examples: elegance, ignorance, absence, patience, presence, credence.

Stems: *curr, curs,* to run.

Examples: current, recur, recurrence, incur, incursion.

THIRD MONTH.

Prefixes: *ante,* before; *anti,* against.

Examples: antecedent, antedate, antebellum, antarctic, antidote.

Suffixes: *ary,* one who, place where; *ory,* one who, place where.

Examples: granary, missionary, adversary, accessory, observatory, introductory.

Stem: *aequus,* equal.

Examples: equal, equator, equation, iniquity, unequal, equity, equality.

FOURTH MONTH.

Prefixes: *contra,* against; *circum,* around.

Examples: contradict, contrary, circumscribe, circumstance, circumnavigate.

Suffixes: *ize,* to make; *fy,* to make.

Examples: equalize, fertilize, magnetize, purify, magnify, simplify.

Stems: *fer,* Lat. to carry; *frang,* fract, to break; *fero,* Lat. to carry, to bear.

Examples: circumference, transfer, translate, infer, prefer, refer, relate, ferry, fraction, frangible, fagment.

FIFTH MONTH.

Prefixes: *ex,* out of; *de,* from, down from.

Examples: export, excursion, exclaim, deport, defer, deduct.

Suffixes: none.

Stems: *pono, posit,* to place; *capio, cept,* to take, to do.

Examples: position, post, depose, depository, expose, exposition, capable, capacious, captor. (Review rest of month.)

History—6B Grade. *(Continued.)*

By Grace E. Hunt, P. S. 55, Brooklyn.

Third Month.

First Week.

(f) Invasion of Canada.

In 1814, the Americans gained the battle of Chippewa in Canada. Later they drove the British from Lundy's Lane, near Niagara Falls.

(g) Battle of New Orleans.

In 1815 came the final battle of the war, contest lasting over two years. The British tried to capture New Orleans, in order to get control of the Mississippi River. The English attacked the city, but Gen. Andrew Jackson who afterwards became President of the United States, defended the approach to the city with fortifications made of banks of earth and logs. Had half as many men as the British.

In less than half an hour, the Americans won the battle, thus closing the "War of 1812." Great Britain had already made peace with our commissioners at Ghent, but the news did not reach us until several weeks after Jackson's victory, so the "Battle of New Orleans" was fought after peace had been declared.

(h) Results of the War.

1. Though our military operations had been far from successful on land, yet we convinced Great Britain that we were able and determined to make our rights on the ocean respected.

2. The war showed foreign nations that any attempt to establish themselves on the territory of the United States was likely to end in disastrous failure.

3. By cutting off our foreign commerce for a number of years, the war caused us to build many cotton and woolen mills, thus making us to a much greater degree than before, a manufacturing people, able to clothe ourselves, instead of having to depend on the looms of Great Britain for our calico and our broadcloth. This produced "Commercial Independence" for the Americans.

Second Week.

ERA OF GOOD FEELING.

James Monroe's Administration.

Fifth President—1817-1825—Two terms.

In Monroe's inaugural address, he gave the people much encouragement. He spent the summer of 1817 in traveling through New England and the Northern States.

New England had been bitterly opposed to the "War of 1812," because the stoppage of commerce had ruined many of her merchants and ship-builders. Going as a peacemaker, his journey did much good. All knew that he had fought under Washington; all knew and respected him. In Boston, the streets were decorated. Men listened and forgot their political differences and hatreds; party lines seemed to fade away.

When Monroe was chosen President the second time, the people showed their respect for him and their confidence in him by their electoral vote, which lacked but a single one of being unanimous—232 cast—Monroe received 231.

What was the trouble with the other vote?

Westward Expansion, 1815-1845.

On the day of Adams' inauguration, the greater part of Ohio was still covered with forests, most of Illinois was a prairie wilderness. But on the Erie Canal and the National road, a procession of boats and wagons crowded with emigrants from the East was steadily moving toward the Mississippi. Steamboats were running on the rivers of the West and on the Great Lakes, contributing their part toward aiding the emigration. Between 1820 and 1830, Michigan Territory gained 260 per cent. in population; Illinois, 180 per cent.; Arkansas Territory, 142 per cent.; Indiana, 133 per cent.

The United States offered land at two dollars (2) an acre, and gave the settler ample time in which to pay it. Cheap land and free education both stimulated the emigrants' great Western march "to that land of promise destined to become the center of population and of political power." Between 1820 and 1830, about one hundred and fifty thousand (150,000) foreigners settled in the United States, a large proportion of them making their homes in the West.

These immigrants were generally young men and women, full of vigor, who came here eager to grapple with the Western wilderness. Their labor developed the resources of the country, and enormously increased its wealth and prosperity.

The Alleghany Mountains shut out the East from the West. As the steamboat could not find a passage leading through those rough walls of rock, Congress resolved to build a road over them. Such a national road had already been begun on the banks of the Potomac, at Cumberland, Md.; then extended across forest-covered mountains to Wheeling on the Ohio River, where it would connect with steamboats running to Cincinnati-New Orleans. The road was extended further West.

It was the first great work of the kind undertaken by the United States. Cost six million dollars ($6,000,000). Traffic immense—emigrant wagons.

States admitted: Illinois, 1818; Alabama, 1819.

Opening of the First American Railroad, 1830.

The steamboat had revolutionized travel and transportation on the inland waters of the United States, and had greatly helped forward emigration to the West. In 1830, fourteen miles of the Baltimore and Ohio Railway were opened; first road in America for carrying passengers and merchandise.

In 1831, a part of the "New York Central Railroad" was opened. First puff of the locomotive was heard in Ohio in 1838.

The railroad solved the problem of the unity of the States, so far as that could be accomplished by material means. It clamped the Republic together with iron bands and in time made every part quickly and cheaply accessible to every other. From an economic point of view, it was no less important, reduced expense of travel, cut down the cost of transportation. Finally it opened new lands to the emigrant and new markets for his produce. It built up thriving inland cities and towns at points inaccessible by water; and it greatly facilitated the territorial division of labor.

In 1832, an Indian insurrection, led by "Black Hawk" broke out in Illinois, and extended to parts of the territory now comprised in Wisconsin and Iowa. Government troops gained an easy victory, and the Indians ceded large tracts of land to secure peace. These cessions opened new fields for settlement in the rapidly growing West.

Third Week.

Northwest Territory.

In 1819, the year in which we purchased Florida, the question came up, "whether slavery should be permitted to establish itself beyond the Mississippi, in the northern part of the territory of Louisiana, then called Missouri."

Congress had shut out slavery (1787) from the Northwest Territory, which extended east of the Mississippi and north of the Ohio. Now the discussion began whether it should in like manner shut it out from that part of the country beyond the Mississippi, north of a line drawn west from near the point where the Ohio joins the river.

Jefferson was afraid that this discussion would lead to trouble between the states.

THE SLAVERY QUESTION.

North.

(1) Slaves were chiefly house-servants.
(2) Not very numerous.
(3) Passing of laws—freedom for slaves.
(4) Made money by manufacturing and dealing in cotton cloth.
(5) Became interested in maintaining slavery.

(6) Believed that country would thrive better if manufactures were protected by government.

Reasons for opposing establishment of slavery in new territory west of the Mississippi.

(a) Serious injury to that part of country.

(b) If new territory should be admitted as "slave" states, South would gain a great number of representatives in Congress—would have the majority.

South.

(1) Slaves used in fields.

(2) Very numerous.

(3) Could not free negroes without ruining themselves.

(4) Invention of "cotton-gin" in 1793 made slave labor profitable.

(5) Wanted liberty to send abroad for goods.

(6) Its prosperity depended on extension of slavery and on free trade with Europe.

(7) If new territory should come in as "free soil," North would soon get control of Congress, so would control trade.

Both sides were the more eager, because since 1812 five states, Louisiana—Indiana—Mississippi—Illinois—Alabama, had entered the Union, thus making the number of free and of slave states (1819) equal, each eleven.

The next state admitted would throw the power on the side of either "freedom" or "slavery."

Fourth Week.

MISSOURI COMPROMISE.

When Missouri took steps to gain admission as a slave state, the South urged the measure with all its might, and the North fought against it. After nearly two years of angry debate, Henry Clay of Kentucky, succeeded in persuading Congress to make a "compromise."

Missouri was to be allowed to enter the Union as a "slave" state, *but* on the express condition that in all future cases, the states formed out of the territory west and northwest of Missouri—that is, north of the parallel 36° 30′—should come in "free."

Congress passed this law in 1820 the name of "Missouri Compromise." Meantime, Maine had been admitted (1820) as a "free" state, so that when Missouri entered the Union (1821) as a "slave" state, the balance between the "free" and the "slave" states was still kept, 12 each.

It was called "compromise," because each side promised to give up something to the other for the sake of making a peaceful settlement of the dispute.

PURCHASE OF FLORIDA.

Spain owned Florida from the time it had been discovered by Ponce de Leon, the Spanish discoverer, 250 years ago. Spain had fought on the side of France against England; now that France was defeated, she was forced to give up Florida to Great Britain. Great Britain ceded Florida back to Spain in 1783.

Now, Florida, which belonged to Spain, was a constant source of trouble to the people of the South. Pirates, robbers, desperadoes, had complete control of the territory. Seminoles or wandering Indians had gone there, and uniting with runaway negroes from the South, had attacked the Georgia planters, burning houses, murdering families, and carrying off property.

Several attempts had been made (1817) to put a stop to these outrages. Finally Gen. Jackson was sent (1818) to see what he could do. His measures were sharp and energetic, and in three months he had conquered the country, though it still belonged to Spain.

The Spanish government found that these troubles were likely to break out again, and that the people of Georgia would never rest until they got possession of Florida; therefore, Spain wisely decided to sell it to us. We obtained the entire territory, about sixty thousand square miles (60,000) in 1819, for five million (5,000,000) dollars, thus adding another large area to the United States. At the same time Spain gave up all claim to the Oregon country, and so strengthened our title to it.

PANIC OF 1837.

In Jackson's farewell address, he said, "I leave this great people prosperous and happy." But Mr. Van Buren had scarcely entered upon the duties of his office in 1837, when a large business house in New Orleans failed. It was the beginning of a panic in trade and money matters, which swept over the country like the waters of a destroying flood.

Panic—sudden fright or alarm, particularly alarm without any real cause. Such periods occur in business from time to time, especially after several years of great activity and speculation ending in reckless investments and loss. The chief cause of a panic appears to be want of confidence. When men cease to trust in each other, then the trouble begins. There may be as much money in the country as before, but it has shifted into the hands of a few, and they are afraid to use it themselves, or to let others use it. The consequence is that prices fall, business stops in a great measure, and much distress is produced.

In ten days, one hundred merchants in New York City had lost everything; business failures reached one hundred million (100,000,000) dollars. Next banks began to fail, and the difficulty of getting gold or silver became so great that even the United States government had to pay army and navy in paper money. John Quincy Adams declared that, "without a dollar of national debt, we are in the midst of national bankruptcy."

(a) Factories—mills stopped running.
(b) Thousands of workmen idle.
(c) Property of all kinds fell in price.
(d) Men could neither collect debts nor pay them.
(e) Banks could not redeem their bills.

Crash came.

After a time confidence began to be restored.

Business sprang up.

A new period of prosperity commenced.

This panic in business had at least one good result. Up to this time, the national government had never taken entire charge of its own money. Now the United States established (1840) an independent treasury at Washington, with sub-treasuries in the chief cities. In this way the government was protected against loss. We owe this excellent system mainly to President Van Buren.

States admitted: Maine, 1820; Missouri, 1821.

FOURTH MONTH.

First Week.

Andrew Jackson's Administration.

Seventh President—1829-1837—Two terms.

POLITICAL REVOLUTION.

Two thousand men turned out of their positions, removed from office, and places were given to those who had voted for him.

"Spoils System."

His object was to give each political party an equal share of offices.

Is he honest? Is he capable? Is he faithful to the Constitution? Action established "Spoils System."

States admitted: Arkansas, 1836; Michigan, 1837; Florida, 1845.

EXPANSION OF WEST.

(a) Canals had been opened.

(b) Steamboats were running on the Great Lakes and on the western rivers.

(c) Whistle of locomotive was being heard beyond the Alleghanies.

(d) Hard (anthracite) and soft (bituminous) coal had been found in immense quantities in Pennsylvania—now coming into use for manufacturing as well as for other purposes.

(e) Establishment of American Express System.

(f) America had produced five eminent painters:

(1) West. (2) Copley. (3) Stuart. (4) Trumbull. (5) Allston.

(g) Cooper—novelist—wrote exciting tales of life on the sea and in the wilderness.

Bryant.

Washington Irving—author of "Rip Van Winkle."

(h) Webster's Dictionary published (1828).

(i) Poets:

(1) Whittier. (2) Longfellow. (3) Holmes. (4) Lowell. (5) Poe.

(j) Emerson—Essays on "Nature."
Hawthorne—Stories of New England.
Audubon—Birds of America.
Bancroft—History of the United States.
Prescott, Motley, Parkman, Historians.

(k) First cheap newspaper—sold for one cent in New York—1833.

INDIAN WARS.

The increased growth of the country alarmed Black Hawk, and he, in 1832, at the head of a large body of Indians, attempted to prevent emigrants from taking possession of public lands in the state of Illinois and the territories of Iowa and Wisconsin. He was defeated and driven beyond the Mississippi. The removal of the Indians beyond that river greatly encouraged emigration.

Second Seminole War in 1835 in Florida, led by Osceola, who had been badly treated by the whites. War lasted nearly seven years and cost forty million (40,000,000) dollars. Indians were defeated by Col. Zachary Taylor, and were finally conquered and sent west of the Mississippi by Gen. Worth.

TELEGRAPHY.

In 1844 Prof. Morse received a grant of thirty thousand (30,000) dollars from Congress for the purpose of proving that a message could be sent by electricity a distance of forty miles, from Baltimore to Washington. First telegraph in the United States or in the world.

DISCOVERY OF GOLD IN CALIFORNIA.

Gold was discovered in California in 1848, and thousands flocked there. The enormous production of gold had many results.

(a) It raised the price of goods and labor.

(b) It opened new markets and extended commerce.

(c) It filled a wilderness with settlers, stimulated the development of Pacific Coast, established new lines of steamships and in time made a transcontinental railroad a necessity.

(d) It was one of the causes which induced the majority of the nations of Europe (1870-1878) to stop the coinage of silver (except for "change") and to adopt gold as their sole standard money.

(e) It extended the domain of free labor on the Pacific Coast and effectually shut out slavery in all that part of the West.

California admitted, 1850; now thirty-one states: Fifteen slave, sixteen free.

Twenty Introductory Lessons in Elementary Algebra, with Original Aids and Devices.*

BY ARTHUR HAAS (Instructor in the DeWitt Clinton High School).

PART II.

Lesson VIII.—The Parenthesis as a unit.

PRELIMINARY TALK.

IF you buy four dozen pencils at ten cents per dozen, what is their cost? In making your calculation just now, what unit did you take, the single pencil or the dozen? (The dozen.)

Suppose the four dozens were given you, each dozen bound in a different colored wrapper—would this make any difference in the value of the dozen? If the wrappers were taken off, how many pencils would you have? (48.) Would their value be as great as before? Could they be bound together again as before into dozen packages? Why were they fastened together originally in packages of a dozen each? (For convenience in handling and counting.)

Suppose that for convenience in handling I wished to treat several variables together as one unit. There are several signs of aggregation, as they are called, which would make this possible. The most important, because it is the commonest in use, is the parenthesis; but there are several others, such as the vinculum, the brackets, and the braces.

This pencil is worth two cents, this eraser is worth five cents; what is their combined value? If I tie them together with a bit of string, what is their value? Has it changed any? If, now, I enclose the two variables, X and Y, in a parenthesis $(X+Y)$, does the value of the sum change? If I used the brace $\{X+Y\}$, would it alter their significance? (No.)

The various signs of aggregation are like the various colored wrappers; each serves the purpose of ***making a unit*** of the quantity contained. The value of a parenthesis, by which term we shall hereafter indicate any sign of aggregation, is to give the polynomial contained, the form of a monomial.

Definition.—Parentheses are marks enclosing algebraic expressions and giving them the properties of monomials.

Suppose I put a pencil and an eraser in a cardboard box, would the value be any different if I placed the pencil in first, or if I placed the eraser in first? Examine the parenthesis $(X+Y)$ and the parenthesis $(Y+X)$. Are they similar? (No.) Why not? (The terms are not in the same position.) Would it alter the value of either if the order of terms were reversed? The answer again is "No." Would the parentheses then be similar?

Is X a general number? Is Y a general number? Could $X+Y=5$? How? ($X=2$ and $Y=3$, or $X=4$ and $Y=1$.) Could $X+Y=7$ or 0? How could the last result be obtained? ($X=3$ and $Y=$

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—3.) Could $X+Y$ equal any number? (Yes.) Is the parenthesis $(X+Y)$ a general number? (Cf. definition of general number.)

If $(X+Y)$ is a general number and has the form of a single term, could $3(X+Y)$ be considered a monomial? What is its coefficient? (3.) Its sign? Its literal factor? How many literal factors are there? (Here the answer two will probably be given, and this will give an opportunity for fixing the idea of the *unity* of the parenthesis by again developing the fact that the parenthesis gives the expression a *monomial* form. In the monomial $5(X+Y+Z)$ how many literal factors? Answer, "One." What is the exponent of the literal factor? (One, understood.) In the term $5(X+Y)^3$, what is the exponent? (3.)

Examine $(X+Y+3X+2Y)$; could we simplify it? How? Examine the binomial $5Y+3(2X+4Y+7X)$. Can we combine the $2X$ and the $7X$? Could we combine the $4Y$ and the $5Y$? Answer, "We could not do the latter, because the one term is separated from the other by the parenthesis, while in the former case the combination takes place within the parenthesis."

The parenthesis acts as a prison cell; all changes of position and combination may take place within its limits, but nothing external can combine or affect the terms inside.

In the expression $6Q$, what sign is understood between the 6 and the Q? (The multiplication sign.) Cf. Second Lesson.

In the expression $5(X+Y)$ what sign is understood between the parenthesis and 5?

In the term X, what is the coefficient and what is the sign?

In the term $(X+3Y)$, what is the coefficient? what is the sign? (Here is the chance to distinguish between the sign of the parenthesis and the sign of the first term as well as between the coefficient of the first term and the coefficient of the parenthesis; but do *not*, at this stage, introduce any negative signs except for this one purpose.)

Exercises.

Add $3(X+2Y)$, $5(X+2Y)$, $2(X+2Y)$, $X+2Y$. Answer, $11(X+2Y)$.

Add $3(2X+3Z)$, $(5X+Y)$, $2(2X+3Z)$, $4(2X+3Z)$, $5X+Y$. Answer, $9(2X+3Z)+2(5X+Y)$.

Add $2(X+Y)^2$, $3(X+2Y)$, $5(X+Y)^2$, $X+2Y$, $(X+3Z)$. Answer, $7(X+Y)^2+4(X+2Y)+(X+3Z)$.

Add after reducing to simplest forms,

$5(2X+3Y)$, $2(X+2Y+X+Y)$, $4(2X+2Y+Y)$.

$7(Y+2Z)$, $8(Z+Y+Z)$, $22(Z+Z+Y)$, $(2Z+Y)$.

Note.—We may now carefully introduce negative terms in the parenthesis but always preceded by similar positive terms with greater coefficients: Add $8(3X+2Y-X)$, $6(5X+3Y-Y-3X)$, $2(4X+5Y-X-3Y-X)$.

$4(2Z+3X+Y)$, $5(X+3Z+Y-Z+2X)$.

Exercise.—What is the sign of $(-4X+3Y)$? Answer, $+$.
" " " " " " $-(3X+2Y)$? " $-$.
" " " " " the first term contained in the parenthesis $(-4X+3Y)$?
" " " " in $-(3X+2Y)$?

What is the coefficient of $4(X+3Y)$? (4.)
" " " " " the first term? (One understood.)
" " " " " $-(5X+2Y)$? (One " .)
" " " " " the first term? (5.)
" " " sign of the parenthesis? ($-$.)
" " " " " " first term? ($+$.)

Lesson IX.—Removal of Parenthesis.

PRELIMINARY ANALOGY.

Here are three boxes each containing two pens, three pencils, and an eraser. If the boxes were emptied, how many pens? how many erasers? how many pencils?

Examine the term $5(X+2Y)$. It means that all the contents of the parenthesis are to be taken five times. If then we remove parenthesis, how many X's? how many Y's?

If, then, we have to add dissimilar parentheses, what may we do to simplify the expressions? (Get rid of the parentheses.) How? (By taking each term inside of each parenthesis as often as is indicated by the coefficient of that parenthesis.)

Exercise.—Eliminate the parenthesis—

$5(X+3Y+2Z)$
$2(Y+A+3B)$
$B(X+Y)$
$A(X+Y)$
$2A(X+Z+Y)$

Simplify the expressions—

$5(BX+AY+Z)+B(X+Y)+3(AY+Z)$.
$4(AX+2AX+Z)+A(X+Z)+X(A+Z)$,
etc.

Exercise thoroughly, using only simple positive qualities.

Lesson X.—Multiplication of Monomials; Law of Signs.

What is the value of $X+X+X$? Answer, $3X$. That is, if X is taken three times, the product will be $3X$.

What is 7 times Y? 4 times Z? A times X? etc.

What is the sign of each factor? ($+$, understood.)

What is the sign of the product? ($+$, understood.)

Rule.—The product of any number of positive factors is always positive.

What are negative quantities? Answer, Those which, when added to the corresponding positive quantities, give a sum equal to zero. (Cf. Lesson III.)

What is the conjugate of AB? Answer, $-AB$. What is the conjugate of $-AB$? Answer, $+AB$.

What is the value of the parenthesis $(A + -A)$? Answer, Zero.

What is the valve of any quantity times zero? Answer, Zero.

Simplify the expression $B(A + -A)$. It equals zero. But it also equals B times A plus B times $-A$. Therefore, B times A is the conjugate of B times $-A$. (In developing this fact show that the sum is composed of two terms and is equal to zero.)

But what is the value of A times B? Answer, AB. And what is the conjugate of AB? Answer, $-AB$. What, then, is the value of B times $-A$? Answer, $-BA$. Therefore, B times $-A$ equals $-BA$.

$(A + -A) = 0$. (By definition of negative quantity.)

$B(A + -A) = 0$. ($\therefore$ the product of zero by any quantity is zero.)

$\therefore B \times A + B \times -A = 0$. (Eliminating the parenthesis.)

Here is a sum of two terms equal to zero; the second is, therefore, the conjugate of the first. (Cf. Lesson on negative number.)

$\therefore B \times -A$ is the conjugate of $B \times A$, or BA. But the conjugate of BA is $-BA$.

$\therefore B \times -A$ is equal to $-BA$.*

Thus we learn that a negative quantity, when multiplied by a positive quantity, gives a negative product.

Rule.—The product of two factors, one negative, the other positive, will be negative.

Exercise on this, giving simple monomials as multiplier and multiplicand. E.g. A times $-B$, $-X$ times Y, $X(-A)$, etc.

There are many analogies by which this rule may be emphasized, such as the adding together of negative quantities, the doubling of tradesmen's bills, multiplication of loans, etc.

What is the value of the parenthesis $(B-B)$? What, then, is the value of the expression $-A(B-B)$? Answer, Zero. Why? Because any quantity multiplied by zero equals zero.

If we eliminate the parenthesis we get

$$(-A \text{ times } B) + (-A \text{ times } -B) \text{ equals zero.}$$

Since the sum of these two terms is zero, and since we just learned that $-A$ times B equals $-AB$, what must the value of the product of $-A$ and $-B$ equal? Answer, It is evidently the conjugate of $-AB$. Therefore, the product of a minus quantity and another minus quantity will be positive.

$(B + -B) = 0$. (By definition of neg. quantity.)

$-A\ (B + -B) = 0$. (∴ the product of zero by any number is zero.

∴ $(-A)\ (B) + (-A)\ (-B) = 0$. (Eliminating the parenthesis.)

Here, again, the sum of two quantities is zero, making the second the conjugate of the first. But the value of the first is $-AB$.

∴ $(-A)\ (-B)$ is the conjugate of $-B \times -A$, or $-BA$.

∴ $(-A)\ (-B)$ is equal to $+AB$.*

Rule.—The product of two negative factors is always positive.

Exercise with very simple examples, using single letters only.

What is the product of AX by —B?—AY by CX?—CX by —AY?

When the multiplier is positive, is the sign of the product the same as that of the multiplicand? When the sign of the multiplier is negative, is the sign of the product like or different from that of the multiplicand? Which signs, then, affect the sign of the answer, by changing it? (The negative.) In the continued product of A by +Y by —C by +X by —D, how long does the sign remain positive? (Until we make use of the first negative factor.) How long does it remain negative? (Until we make use of the second negative factor.) Suppose there were three negative factors, what would the sign be? If there were four? The pupil will very soon see for himself, and state the following *rule:*

A product containing an odd number of negative factors will be negative. All others will be positive.

Exercise in continued products, using different letters for each factor, and using odd and even numbers of negative factors.

Lesson XI.—Multiplication of Monomials. Laws of Coefficients; Letters and Exponents.

What is five times three dozen? four times six pair? twice three gross? seven times 2X? four times 9 AY?

What is the product of 3A by B? Answer, 3AB.

Write 4B without the use of numerals.

$$4B = (B + B + B + B).$$

Find the value of $3A\ (B + B + B + B)$. It equals $3AB + 3AB + 3AB + 3AB = 12AB$. How often is 3AB taken? How often was B taken in the parenthesis? What, then, is the product of 3A by 4B? Answer, 12AB. What was the coefficient in the multiplicand? What was the coefficient in the multiplier? What was the coefficient in the product? How are these coefficients related?

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* The above analytic and elegant demonstration was devised by Professor Keyser of Columbia University. It has been successfully used with pupils in elementary Algebra, and while the entire class was never able to reproduce the proof, and those members who were soon forgot it, still all were able to understand it at the time, and it seems to me far better to give a good explanation of the law than merely to state empirically the rule, as is usually done.

Rule.—The coefficient of the product of two or more factors will equal the product of their coefficients.

What is an Algebraic term? (Cf. definition.)

In the expression AXYZ, what are the separate factors making up this term? Answer, A, X, Y, and Z. If, then, we have two or more literal factors given, how can we obtain their product?

Again it will be easy to develop the *rule*:

Every letter that appears in the separate factors will appear in the product.

Write the term X^3 without using a numeral. Answer, (XXX). Suppose we wish to multiply this by X^2, that is, (XX), we should get the term (XXXXX) by our last rule. What power of X have we in this product? Answer, The fifth. What was the exponent of the multiplicand? Answer, 3. Of the multiplier? Answer, 2. What is the relation existing between these exponents? Thus we develop the rule that the exponent of any letter in a product may be found by adding the exponents of that letter in the separate factors.

Recapitulation.—Multiplication of Monomials by Monomials.

Law of signs.—The sign of a product will be negative if there is an odd number of negative factors; otherwise it will be positive.

Law of Coefficients.—The coefficient of the product will be the product of the coefficients of the individual factors.

Law of Letters.—Every letter that appears in each factor will appear in the product.

Law of Exponents.—The exponent of each letter in the product will equal the sum of the exponents of that letter in the separate factors.

Example.—Find the continued product of $-5AXY$, $2X^2YZ^3$, $3A^4BC$.

Answer. The sign of the product is —, because that is an odd number of negative factors.

The coefficient of the product is 30, because 3 times 2 times 5 equals 30.

The letters of the product will be ABCXYZ, because these, and these only, appear in the factors.

The exponent of A in the product is 5, because $4+1=5$.
" " " B " " " " 1, understood.
" " " C " " " " 1, understood.
" " " X " " " " 3, because $1+2=3$.
" " " Y " " " " 2, because $1+1=2$.
" " " Z " " " " 3.

Give many examples in continued products of monomials by monomials, as this work, aside from its disciplinary value, will be of great assistance when taking up the subject of fractions.

The idea of an odd number of negative factors producing a negative product is much more easily carried and understood than the old rule (which applied only to two factors), viz.: that the product of unlike signs gave *minus* and the product of like signs gave *plus;* e. g. $(-5X)\times(-3Y)\times(-2Z)$. Here the product of like signs gives minus.

Lesson XI.—Removal of Parentheses and Multiplication of Monomials by Polynomials.

Examine the expression $5B(AX+3A)$. What sign is understood between the B and the parenthesis? (The multiplication sign.) Hence, to remove the parenthesis, every term within it must be multiplied by the 5B. What is the value of the above expression when the parenthesis is removed?

Again, take the expression $3A(4BX-2AB)$. Here also each term enclosed must be multiplied by the 3A, the result being $12ABX-6A^2B$. Suppose we have $-5A(3AB+2ST-A^2Y)$. By what must each enclosed term be multiplied? Answer, by $-5A$. Perform the multiplication. In the expression X^2, what is the coefficient? Answer, 1 understood. In the quantity $-(7AB-3AX-5BC)$, what is the coefficient of the parenthesis? Answer, 1. What is its sign? Answer, Minus sign. To eliminate the parenthesis we must multiply each term within by the minus one (-1). What will then be the value of the parenthesis?

Exercise.—Simplify the following expression by removing the parentheses and combining similar terms:

$5(AX+BY)-3A(X-B)+2B(A-Y)$, etc.
$3(AX-BY)-(2AX-4BY)+A(X-Y)-(AY+2X)$, etc.

Simplify:

$A^2BX^3(5ABX-2A^3-12AX^2-4B^5.)$
$4A^3BY(2Y^2-3AX-4AX^2)$.
$-6A^4B(7CD-5AX+3CX-5Y^4-2A)$.
$--4A(-3AB+2A^2B^2-5AX)$.

Suppose you are asked to multiply $5ABX-2A^3-12AX^2-4B^5$ by A^2BX^3, how could you indicate the multiplication? Answer, By placing the polynomial in parenthesis and the monomial in front. How could you find the result? By eliminating the parenthesis. But what must you do to eliminate the parenthesis? Multiply each term in the parenthesis by the monomial. We thus arrive at the following *law:*

The product of a polynomial by a monomial is an expression which is composed of the sum of the partial products obtained by multiplying each term of the polynomial by the monomial. Show inductively the following scholia:

Scholium I—There will be as many terms in the product as there are in the multiplicand.

Scholium II.—The signs in the product will all be the same as in the multiplicand, if the multiplier is positive, and all will be reversed if the multiplier is negative.

Scholium III.—The degree * of each term in the product will be equal to that of the multiplicand increased by as many points as there are in the degree of the multiplier.

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* Explain that the degree of the term is indicated by the number of variable factors contained in it. Thus $8A^2B^3$ is of the fifth degree because it contains as factors 8AABBB or five variable factors. Let the pupil discover the method of finding the degree of a term by adding exponents (including, of course, the "1" understood, where it occurs).

The above scholia should be used to test each example after it is completed, in the following manner: First, the number of terms in the product should be counted and found to agree with the number in the multiplicand. Second, the signs of each term in the product should be examined and found either to agree or disagree entirely with those of the multiplicand. Third, the degree of each term should be examined and found to differ from the degree of the corresponding term in the multiplicand by the degree of the multiplier.

The form of work may now be altered to conform with the appearance of an example in multiplication in Arithmetic; that is, the multiplicand may be placed above the multiplier and a line drawn, under which the product is placed.

Lesson XIII.—Multiplication of Polynomials by Polynomials.

What is the result of removing the parenthesis from the following expression? $Q\ (A^3 - 2AB^2 + 4AB^3)$.

Answer, $A^3Q - 2AB^2Q + 4AB^3Q$.

Suppose, instead of the general number Q, we used any other general number, what would be the effect?

Answer, "That general number would appear where the Q had before appeared."

Is $(A - X)$ a general number? (Cf. Lesson on Parenthesis.)

Suppose that for Q we substitute $(A - X)$ and obtain the result $(A - X)\ (A^3 - 2AB^2 + 4AB^3)$, could the second parenthesis now be removed? How? Answer. $A^3\ (A - X) - 2AB\ (A - X) + 4AB^3\ (A - X)$.

(*Exercise* in removing the second parenthesis from products in which the first parenthesis is a binomial and the second parenthesis is a trinomial.)

Could all the parentheses be removed from the above expressions? How?

Exercise.—Remove all the parentheses from the expressions obtained in the last exercise.

When we examine the answers to the above, how many terms are there in the product? (6.) How many terms in the first parenthesis? (2.) In the other parenthesis? (3.) How were the six terms in the product obtained? If this question is not answered correctly at first, and it is not likely to be so answered, repeat the operations involved and analyze the product, term for term, until finally the pupil sees that a product of a binomial by a trinomial is obtained by multiplying each term of the multiplicand by each term in the multiplier. Now take exercises involving trinomial multipliers and polynomial multiplicands and then deduce the following *law:*

The product of a polynomial by a polynomial is an algebraic expression composed of the sum of all the partial products obtained by multiplying each term of the multiplicand by each term of the multiplier.

Let us now arrange an example to conform in appearance with the ordinary arithmetical example in multiplication; e. g.,

$$\begin{array}{r} X+Y+Z \\ A+B \\ \hline \end{array}$$

By what mechanical means may we be sure that each term of the multiplicand is multiplied by each term of the multiplier? Answer, By multiplying the entire multiplicand, first by A and then by B. Suppose we had three terms in the multiplier and four in the multiplicand, how many terms would there be in the product? Answer, Twelve. Multiply—

$$\begin{array}{rl} & R+S+T+U \\ \text{by} & \underline{A+B+C} \\ & AR+AS+AT+AU+BR+BS+,\ \text{etc.} \end{array}$$

Suppose some of the terms in the answer were similar, what could we do to simplify? Example: multiply $(R+S+T+C)$ by $(B+C+R)$. What terms in the answer are similar? $(CR.)$ Could the answer, then, be simplified? How?

$$\begin{array}{rl} \text{Example: Multiply} & A^2+AB+B^2 \\ \text{by} & \underline{A+B} \end{array}$$

How can this answer be simplified? Could anyone suggest a means of simplifying the entire operation? How? Answer, By placing similar terms under each other immediately and adding.

$$\begin{array}{rl} \text{Example: Multiply} & 3A^2+AB+B^2 \\ \text{by} & \underline{A^2+2AB+3B^2} \\ & 3A^4+2A^3B+A^2B^2 \\ & \qquad 6A^3B+4A^2B^2+2AB^3 \\ & \underline{\qquad\qquad 9A^2+B^26AB_3+3B^4} \\ & 3A^48+A^3B+14A^2B^2+8AB^3+3B^4\ \text{Answer.} \end{array}$$

$$\begin{array}{rl} \text{Example: Multiply} & 2AB+3A^2+B^2 \\ & \underline{3B^2+A^2+2AB} \\ & 6AB^3+9A^2B^2+3B^4 \\ & \qquad A^2B^2\ +2A^3B+3A^4 \\ & \underline{2AB^3+4A^2B^2\ +6A^3B} \\ & 8AB^3+14A^2B^2+3B^4+8A^3B+3A^4\ \text{Answer.} \end{array}$$

What is the difference between the two foregoing examples? Which arrangement produces the simplest result? Hence the following *rules:*

First.—Arrange both multiplicand and multiplier according to the descending power of the dominant letter (i. e., the one that appears most frequently). Note: If two letters appear with equal frequency, prefer that one which comes first in alphabetical order.

Second.—Find the partial products of the multiplicand by each term of the multiplier according to the rules for multiplying polynomials by nomials.

Third.—Place these partial products under each other, similar terms in columns where possible.

Fourth.—Add these partial products together and their sum will be the required answer.

Scholium.—Test each partial product according to the scholia under Multiplication of Polynomials by Nomials.

Exercise with many examples, first giving them with all the terms properly arranged, later with the terms in confused order.

The remaining seven lessons will take up Division, Problems, and Factoring.

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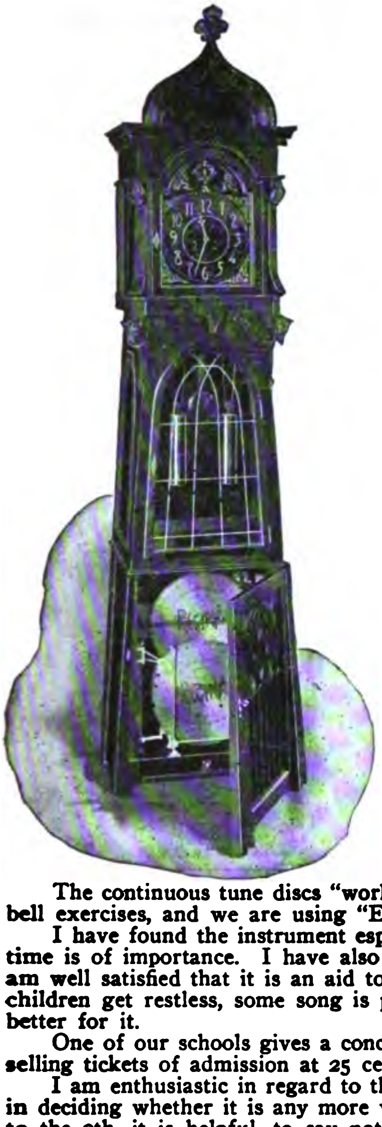

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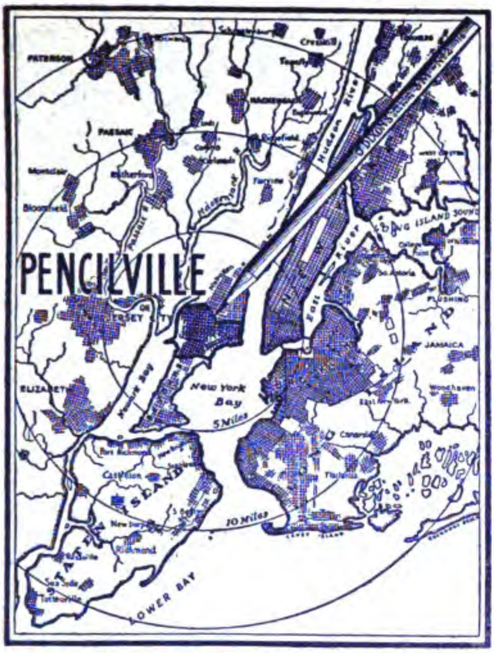

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